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**“AN EXAMINATION OF THE EFFECT OF DRUG ENFORCEMENT ON THE
RATE OF SERIOUS CRIME IN QUEENS COUNTY, NY FROM 1995-2001”**

James E. McCabe

A dissertation submitted to the Graduate Faculty in Criminal Justice in partial fulfillment
of the requirements for the degree of Doctor of Philosophy, The City University of New
York

2005

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Abstract

AN EXAMINATION OF THE EFFECT OF DRUG ENFORCEMENT ON THE RATE OF SERIOUS CRIME IN QUEENS COUNTY, NY FROM 1995-2001

James E. McCabe

Adviser: Professor Eli B. Silverman

This research explores the relationship between serious crime and drug arrests in Queens New York between the years 1995 and 2001. Over the last decade, New York City experienced a dramatic decrease in crime. One of the more prominent explanations of this crime decrease is a variant of the “Broken Windows” theory posited by James Q. Wilson and George L. Kelling in 1982.

Wilson and Kelling offered the metaphor of the broken window to describe the process where social control/order breaks down and crime flourishes. This research tests this theory in that it uses drug arrests as a proxy for “broken windows” and FBI Part I Index crimes as a measure of serious crime. Furthermore, the period of time under examination is one when the New York City Police Department undertook a strategic shift in drug enforcement. The NYPD focused resources in six precincts in Queens in two successive “Narcotics Initiatives,” to the exclusion of the other ten precincts in the county. These Initiatives, as they were called, concentrated Narcotics enforcement in two regions of Queens at different time periods. The build-up and timing of this effort permits research to look back and see the impact the Initiatives had on crime, compared to other precincts not benefiting from the attention.

The results of the analyses showed that the rate of controlled substance arrest is positively and significantly related to the crime rate. The rate of marijuana arrest rates, however, is significantly and inversely related to the crime rate. The research also showed that closing drug locations through Nuisance Abatement statutes had a significant effect on decreasing the rate of crime. The impact of the Narcotics Initiatives was mixed with little impact on the rate of arrest, limited impact on the rate of crime, a positive impact on the level on Nuisance Abatement closings, and no impact on the level of citizen complaints against the police. Furthermore, citizen complaints against the police is shown to be significantly related to the crime rate, decreased over the course of the study, and did not increase in the wake of the deployment of the Narcotics Initiatives.

Acknowledgements

My interest in this project began at the very beginning of my doctoral training. At the time Carl Wiedemann was introducing the world of advanced statistics to a cohort of new students, and I seized upon a newly published report by the NYPD about demographic characteristics of the 76 police precincts in New York City taken from the 1990 census. I used this information to write several papers for his class and became fascinated with the relationships between crime, arrests, quality of life enforcement, and the impact of social characteristics on all of these things. At about the same time New York City was experiencing an impressive reduction in serious crime driven, presumably, by the enforcement of minor offenses under the COMPSTAT management process. The idea remained dormant for many years as I struggled to complete the degree requirements, but was renewed again when I finally advanced to candidacy.

The initial research idea was to test the “broken windows” hypothesis to see if enforcement of minor offenses led to a reduction in serious crime. The obstacles to collecting and analyzing the data necessary for such a project proved to be too great and the idea needed to be refined. With key input from Barbara Stanley in her “Guided Research” seminar, and the seemingly countless discussions with Eli Silverman and Joe Pascarella, the research question narrowed to examine the relationship between drug enforcement and serious crime. The initial idea remained, but was conceptualized differently. It would still be possible to pursue the original idea in a manner that was “doable” by a team of one with many other competing demands in the way.

So, this is eleven years in the making. Through the course of a career in the NYPD that took-off faster than I expected, the birth of two of my three daughters, the move to a new home, the death of both my parents (sorry you guys couldn’t be hear to share this with me), the worst terrorist attack on our country, and a thousand or so other obstacles, I was able to explore a question that has been pestering me for some time. To paraphrase George Kelling in his study of the NYPD, “the police *do* matter,” but probably not as much as they think. This research concludes that enforcement of marijuana offenses has a significant impact on the reduction of other serious crime, and that seizing drug locations can aid in crime reduction. Also, the enforcement and crime control goals of the police can be accomplished without negative repercussions in the community.

There are so many people that I need to thank that have helped me along the way: To Joe Pascarella, Richie Ruffe, and the crew in the Crime Analysis and Program Planning Section in the NYPD for helping with the data; to Eli Silverman who’s constant counsel and guidance, even into his own retirement, I relied on throughout the years; to my parents, John and Eileen McCabe for a lifetime of support, I wish I finished sooner for them to witness; to my beautiful girls, Jen, Maggie, and Kathryn who grew up seeing Dad in the attic working when he should have been playing with them; but most of all to my adoring and unbelievably supportive wife Karen (this is as much her accomplishment as it is mine) who stood with me all these years and helped me through the tough times and gave me the inspiration to stay focused and stay on track, no matter what. Thank you all, I could not have done it without you.

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I. STATEMENT OF PROBLEM

In March 1982 James Q. Wilson and George L. Kelling published an article in The Atlantic Monthly, entitled “Broken Windows: The Police and Neighborhood Safety.” This seminal work would not only contribute to the development of community policing in many parts of America, but it would also call for a new approach to the way the police did “business.” Wilson and Kelling employed the metaphor of the “broken window” to explain the manner in which small problems, if left unattended, can quickly develop into serious ones. They argued, “if a window in a building is broken and left unrepaired, all the rest of the windows will soon be broken...one unrepaired broken window is a signal that no one cares, and so breaking more windows costs nothing.” Once the windows begin to break, and are not repaired, the entire property becomes vulnerable to damage, ultimately leading to dilapidation of the structure. Wilson and Kelling applied this argument to public disorder and its corrosive effect on community controls and crime. They suggest, “‘untended’ behavior also leads to the breakdown of community controls. A stable neighborhood of families who care for their homes, mind each other’s children, and confidently frown on unwanted intruders can change, in a few years or even a few months, to an inhospitable and frightening jungle” (Wilson & Kelling 1982). The argument from a criminogenic standpoint continues, “a piece of property is abandoned, weeds grow up, a window is smashed. Adults stop scolding rowdy children; the children, emboldened, become more rowdy. Families move out, unattached adults move in. Teenagers gather in front of the corner store. Fights occur. Litter accumulates. People start drinking in front of the grocery; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off. Pedestrians are approached by panhandlers. At this point serious

crime will flourish or violent attacks on strangers will occur” (Wilson & Kelling 1982). Such an area filled with disorder is presumed to be vulnerable to criminal invasion.

Although it is not inevitable, areas such as this become unable to regulate the conduct of their residents. Prostitution, robbery, and other sundry offenses become common in the absence of community regulation. Also in such unregulated community spaces drug markets can flourish. Wilson and Kelling’s argument was simple. If disorder (public alcohol consumption, panhandling, homelessness, drug sales and use, prostitution, graffiti, abandoned homes and cars, rowdy youths) is not regulated and controlled in any community, then the community is vulnerable to serious crime. The antidote, therefore, to control serious crime, was to stem the disorderly conditions that existed, permitting crime to occur in the first place. Control the disorder and you can control the crime. Regulate the behavior of neighborhoods more closely and you can reduce or eliminate violent offending, and most importantly the fear of victimization.

The central question here is to what extent the use and sale of drugs in communities contributes to the presence of disorder. Controlling drug use and sales, therefore, controls serious crime. As the use and sale of drugs proliferates in an area, the area loses its ability to regulate the conduct of its citizens. Drug enforcement, therefore, is essential to gaining and maintaining community control and reducing serious crime.

In recent years the New York City Police Department (NYPD) embarked on a campaign to address the use and sale of drugs in public places. What has come to be known as “Narcotics Initiatives” are now a means of reducing serious offending. In 1994, with the election of a new mayor, Rudolph W. Giuliani, the NYPD, under a new Police Commissioner William Bratton, began to target aggressively drug offenses. With

the publication of Police Strategy No. 3: Driving Drug Dealers Out of New York the resources of the NYPD were directed at “driving open-air drug activity off the streets of targeted areas, and then closing, and where possible seizing, the inside drug trafficking locations” (NYPD Strategy No. 3, pg 15). According to the Strategy document:

“Driving Drug Dealers Out of New York is a blueprint for deploying the enforcement resources of the NYPD to reclaim and hold targeted geographical areas of the city with and for the people who live there. The narcotics strategy builds upon both the successes and failures of previous efforts by the NYPD.” (Strategy No. 3 pg 5-6)

For the NYPD, in 1994, drug use was seen as the engine driving serious crime in the city, and the NYPD was prepared to act on it. With the entrance of a new administration at the helm of the NYPD, the force of nearly 30,000 officers (NYPD Personnel Report, January 1994) was mobilized to address disorder. According to Strategy No. 3, the NYPD was going to revisit the previous policies of not enforcing drug offenses, and changed procedures to ones delineating exactly how drug use and sale behavior was going to be handled aggressively by the department. The bottom line was that drug offenses were going to be taken seriously.

As the “linchpin” of NYPD enforcement efforts, drug enforcement would become the hallmark of more than 12 years of crime reduction in New York City (NYPD Strategy No. 3, 1994; Compstat report 12/31/04). The debate, however, still rages in public, academic, and political circles, as to the exact contribution quality of life enforcement in general, and drug enforcement in particular, to reducing crime. This research study will be dedicated to examining this relationship. The notion that addressing drug use and sales in neighborhoods can be a means to reduce serious crime is

an important one, not only for law enforcement and the police, but also for communities interested in providing for their own safety.

The research in question will look specifically at the New York City experience. Index Crime data will be examined and compared to levels of drug enforcement in the county of Queens in New York City from 1995 to 2001. This time frame represents the years in which the NYPD targeted drug sales and use through innovative “Narcotics Initiatives” designed to eradicate drugs from Queens’ neighborhoods.

The political decision was made at the time to augment existing resources deployed by the NYPD to battle the drug trade. The build up of resources were known as “Narcotics Initiatives” and were progressively and sequentially implemented throughout the city in selected precincts. It is now possible to examine the crime trends in the precincts that benefited from the deployment of “Narcotics Initiatives.”

The “initiatives” entailed the deployment of increasing numbers of narcotics enforcement officers within specific geographic locations. While the NYPD Strategy # 3 delineates the plan to target drugs and “drive drug dealers out of New York,” the Narcotics Initiatives were the organizational instruments that would essentially accomplish this goal. Interviews with ranking members of the NYPD (McCarthy, 2004) and various internal NYPD documents detail the development and implementation of the narcotics enforcement initiatives.

According to the NYPD, narcotics enforcement was generally focused on keeping the street free of drugs. An uncoordinated and narrowly focused drug enforcement effort acted as a “street sweeping operation” without regard to other crime conditions or

community concerns (NYPD, 1997). Furthermore, narcotics personnel were deployed in a fashion that was unrelated to the needs and priorities of other NYPD units or outside agencies (NYPD, 1997; McCarthy interview, 2004).

The Narcotics Initiative concept demanded that Narcotics personnel work closely with patrol and investigative personnel in their geographic area of responsibility. This included having a detailed understanding of the crime conditions in the area, as well as crime trends and patterns and possible linkage of these trends to the drug trade (McCarthy interview, 2003). The knowledge of crime trends became important to deploying Narcotics personnel to respond to these crime occurrences. This required accurate information about crime and the requisite shift of the hours and days off of Narcotics personnel.

The Initiative concept began in Manhattan in 1995 with the “Lower East Side Initiative.” It quickly expanded throughout New York City with the South Bronx Initiative in September 1995, the Brooklyn North Initiative in July 1996, Northern Manhattan Initiative in August 1996, the South East Queens Initiative (SEQI) in November 1997, the Queens North Narcotics Initiative (QNNI) in February 1999, and the Brooklyn South Initiative in March 1999. Ultimately, by the diffusion of innovation model (Langworthy and Travis 2003) the initiative concept spread to each borough in New York City.

As the remainder of this paper will disclose, the notion of drug enforcement, within the constellation of quality of life offenses, deserves attention in both theoretical and organizational contexts, as a component fundamental to each area. Police Departments across the nation enforce drug laws aggressively with an understanding that

targeting these offenses reduces other serious crime. Yet, the presence of solid research, upon which to base this claims, is lacking. The findings of this research project will undoubtedly shed interesting light on the discussion of the effect of drug enforcement on serious criminal offending. Given the substantial investment in policing in this country, and the lack of research in this area, this study stands to make an important contribution to the discipline of Criminal Justice, and the many sub-levels within which this discipline operates. If a relationship between serious crime and drug enforcement is disclosed by this research, then it validates many of the operating principles of contemporary law enforcement.

II. LITERATURE REVIEW

The notions of disorder, community control, and the police role in restoring order, and therefore reducing crime are important ones. The purpose of this research is to explore the exact role of the police in reducing crime through the specific intervention of drug enforcement in certain neighborhoods in Queens, New York. Much scholarly thought, however, is torn between the impact and utility of police operations in this area. The effectiveness or ability of the police to establish community order and reduce crime through enforcement activities is considered by some to be of questionable value. The matter has aroused a great deal of interest in the academic and legal communities, so much so that the entire December 2000 Fordham Law Journal was dedicated to this topic. The following discussion illustrates some of the competing claims.

A. Competing Explanations of Crime Causation and Decrease

Many criminological theories discard the role of the police in combating crime. “Root cause” explanations of crime have dominated criminological theory since the 1960s. Crime was considered to be caused by social/psychological forces like racism, poverty, unemployment, education, labeling, learned deviance, etc. Since the police have no role in these structural and individual issues, they could not have a role in reducing crime.

Over the last decade explanations abound to account for the dramatic decrease in crime. Many authors have asserted that crime is decreasing because of forces other than the police. The use of crack – cocaine is declining (Bowling, 1999), the number of at-risk youth in the population has decreased (Harcourt, 2001), the values and beliefs of at-

risk youth have changed (Curtis, 1998), social institutions have gained legitimacy, and at-risk youth are more likely to bond with conventional society (LaFree 1998), all have been offered as plausible explanations.

Other studies are less certain. They claim that there is no clear explanation, but the police are not a factor (Eck and Maguire, 2000), or that the police did have a role, but at an unacceptable cost (Fagan, Zimmering and Kim, 1998). Karmen (2000) is more diplomatic asserting that, although there is no certainty, every explanation has its strengths and weakness. Also, other scholars argue that police officials are “cooking” the books and falsifying crime data to manufacture a crime decrease (Manning, 2001). The mainstream media has also given considerable attention to the decline in crime in recent years and have no shortage of explanations for the decline. From a decrease in teen pregnancy (Lacey, NY Times Oct. 27, 1999 pg. A16), to a reduction of at risk males aged 15-19 (Havemann Washington Post, May 1, 1998 pg. A1), to a higher completion rate of High School for inner city black youth (Nat’l Ctr. For Education Statistics, 1998), to the end of the crack epidemic (Butterfield NY Times, Oct. 27, 1997, pg. A12), to new management techniques in the NYPD (Lacayo, Time, January 15, 1996, pg. 48), all lay claim to the real reason crime is down. Also present on this commonly accepted list is the impact of the NYPD’s campaign in enforcing the law against quality of life offenses. But the exact contribution of drug enforcement is not clear.

B. Role of Drugs in Crime

There appears to be three distinct links between drugs and crime (Ball et al 1981; Johnson et al 1985). There is the effect of the use of drugs itself. Being under the

influence of drugs possibly creates careless or destructive behavior. The pharmacology of various drugs and the sociology of their acquisition and use make the propensity to commit crime greater (Boyum and Kleiman, 1995). The effect of chronic cocaine use, for example, can lead to paranoid, aggressive, and irascible behavior (Weiss and Mirin 1987; Post 1975).

In addition, there are crimes associated with the maintenance and operation of the drug market. People in the business of drug trafficking and sales take certain measures to control and enforce their position in that market. For example, territorial disputes among drug dealers, theft of drugs, etc. are settled by force. Dealers, because of the illegal nature of their trade, are not likely to resort to conventional methods to settle disputes. Therefore, they are more likely to settle these issues with the use of force, and often deadly force accompanying the use of firearms (Boyum and Kleiman, 1995).

Lastly, there are crimes committed by individuals to support their drug habit. These economically motivate crimes are driven by users of drugs to get money to buy drugs. Chronic drug users are less likely to be engaged in conventional activities to raise money to support their habits. In order to support these habits, therefore, chronic drug users rely on criminal activity to raise cash to buy drugs (Goldman 1976; 1977; 1981, Johnson et al 1985; Collins, Hubbard and Rachel 1985).

C. Role of Drugs in Community Disorder

The concept of disorder is central to any discussion of neighborhood safety and crime. It has been argued for many years that this notion of disorder has a direct and/or indirect impact on crime and the fear of crime in communities (Wilson and Kelling, 1982, Skogan, 1990; Kelling and Coles, 1996). Disorder is thought to exist on two separate

dimensions: physical and social (Skogan, 1990). Physical signs of disorder involve unchecked signs of decay, such as graffiti, vandalism, litter, abandoned or ill-kept property, trash-strewn lots, broken streetlights, etc. Social disorder is a matter of behavior. Public drinking, noise, drug use and sales, prostitution, panhandling, and public urination are all behaviors that are generally classified as disorder (Greene & Taylor, 1988; Fagan & Davies, 2000; Harcourt 2002). Disorder violates widely held community values and in many communities is prohibited by statute. Order is generally considered as the acceptable norms of public behavior: the principles of the manners and morals of a community (Skogan, 1990).

There is perhaps no greater threat to the good order of a community than the presence of drugs. The sale and use of drugs on the street in a neighborhood can have a powerful negative effect on a community. Skogan (1990) examined 40 neighborhoods in 6 cities in the United States and surveyed roughly 13,000 people to determine their views on crime and disorder. One of the neighborhood problems ranked highest by respondents was the sale and use of drugs. Drug use and sales, according to Skogan, ripped at the fabric of communities and could render the ordinary neighborhood controls useless. As drug dealers and drug users moved into neighborhoods to conduct their trade, decent residents moved away. They avoided the “drug-prone” locations for fear of being victimized by a person high on drugs and unpredictable, or the for fear of being victimized by the violence associated by the drug trade itself. The presence of drug use and sales in a community could quickly transform it from a stable neighborhood to a very dangerous place (Waldeck, 2000).

D. Evolution of police strategies

Police strategies have been conceptualized as existing in one of three distinct eras (Kelling & Moore 1988). The “political” era existed before the 1900s and policing was driven by the wishes of the political apparatus in place at the time. The dysfunctional nature of the police/political relationship gave way to the “reform” era of policing. The corruption and inefficiencies of the political era gave rise to theories of contemporary management (Fyfe et al 1996) and the period of civil service reforms and standardized practices. The reform era sought to militarize police operations, focus on professionalism and crime control, and eliminate or minimize the outside influences of politics. The centralized police bureaucracies created during this time became isolated and distant from the public they served (Kelling and Moore 1988). This isolation and perceived unresponsiveness to community concerns gave rise to the “community policing” era beginning in the late 1960s. The community policing era viewed policing as catalyst for social change where police departments would work in partnership with communities to rectify issues of mutual concern (Cordner, 1993).

During the community policing era the police became viewed as problem solvers. By working with communities, problems could be identified and corrected through police intervention. The public would have a voice in the style and methods of policing in their communities and the police would be given clear and unambiguous direction on what problems to address. “Problem-oriented policing” emerged as a mechanism to both identify and address problems confronting the police (Goldstein 1979, 1990). In the context of community policing, these problems were put squarely into a shared responsibility of both police organizations and communities.

As the role of the police and the community was being redefined during the emerging period of community policing, the notion of disorder, and the fear of crime began to emerge as important issues (Pate, et al, 1985, 1986; Sherman 1973; Trojanowicz 1983, 1986). Crime was not a singular issue. Crime, the fear of crime, and disorder became important components of neighborhood safety and the quality of life. It was no longer sufficient for the police to simply address crime. It was paramount that the equally important issues of fear and disorder receive police attention as well (Skogan, 1990). Wilson and Kelling conceptualized this relationship in their seminal work “Broken Windows” and put into words what community resident had intuitively understood as the true issues for the police. Crime, and as an equal partner, disorder were the mandate of the police.

Police strategy needed to shift to address crime and disorder to service properly community concerns. The ways police agencies went about this new mission were as numerous as police agencies themselves (Cordner, 1996). Police agencies around the country embarked on new strategies to address crime, the fear of crime, and disorder that were consistent with the operational policies of their agencies, the law, and the wishes of the communities they served. Police Departments adopted numerous approaches to crime and disorder control that suited them best (Sherman, 1997). These approaches were consistent with both the problem-oriented and community-oriented policing. Namely they centered on identifying and addressing crime and disorder-based problems within a community context.

Drug enforcement figured prominently into this picture. Communities across the nation were waging a “war on drugs,” and drug control became important issues for local,

state, and national governments, and important problems for communities across the nation. The enforcement of drug laws and the response by the police to the conditions associated with the drug trade thus became a central police/community concern.

Strategies to eliminate drug sales and use became important features in policing agencies across the nation and persistent and recurring problems within the communities they served.

E. Kelling School

George L. Kelling is one of the principal architects of the foundations of policing that employ what is known as “broken windows” policing, and “order-maintenance” policing. Essentially, this philosophy entails addressing the minor problems in a community before they get out of hand and create conditions that welcome and/or permit more serious offending. This has often been conceptualized under the general umbrella of quality of life enforcement “zero tolerance policing.” Zero tolerance is a style of police conduct that replaces community support of crime control initiatives with the enforcement of minor violations linked to social conduct and rule violations. “Broken windows,” or “Order-maintenance,” policing on the other hand, involves taking care of disorderly behavior both from a social sense (drugs, prostitution, panhandling, public intoxication, etc.) and from a physical sense (graffiti, abandoned cars and homes, litter, etc.), and importantly, encourages the active participation of the community receiving this police attention. Scholars who support this approach tend to agree that the police can affect disorder, and restoring order in communities can eliminate crime and the fear of crime.

The intellectual argument that began this conceptualization of policing was “Broken Windows: The Police and Neighborhood Safety” (Wilson and Kelling, 1982).

This important piece generated a new way of thinking about the police in society. The conventional wisdom at the time was that the police did not matter much in the control of crime. The “root cause” theories spawned during the 1960s and 1970s dominated criminological thought and looked at macro social causes of crime. Poverty, unemployment, racism, class conflict, etc. caused crime (Wilson and Petersilia 1995). Since the police did not have an impact on these issues, they could not impact on crime. This thinking, combined with empirical research of police operations (Kelling et al 1974, Kennedy & Moore, 1995), led to the belief that the police did not have a role in crime control. Wilson and Kelling changed, or at least refused to believe, that way of thinking.

One of the most comprehensive works supporting this position was Skogan’s examination of the link between crime and disorder (Skogan 1990). Skogan found that rates of robbery were significantly related to levels of perceived disorder. Furthermore, he found a wide consensus on the definition of disorder, and by way of proof for a crime disorder connection showed that there few, if any, neighborhoods, that are high on levels of disorder and low in crime.

As crime across the United States began to decrease more attention was paid to the efforts of the police. Kahan explored the implications of the social influence theory and order maintenance policing. He found that police enforcement of drug dealing sent a message that crime was under control and influenced the patterns of behavior against crime (Kahan 1997). Koper found that police presence in “hot spots” of crime for as little as 10 minutes can disrupt behavior enough to reduce crime at the location (Koper 1995). Heymann argued that there are definite connections between the new forms of policing and the reduction in violence and it is hard to imagine that they have not had a

major impact (Heymann 2000). Susan Waldeck emphasized a social norms approach arguing that individuals did not decide to break, or obey, the law in a vacuum. They based their decisions on the decisions of others, thus creating an order of norms in a community. The norm of order was established in no small part by police efforts to eradicate drug use and sales therefore regulating the behavior of community residents (Waldeck, 2000). Finally, Kelling himself expanded on his own work by studying the New York experience between 1989 and 1999. He discovered a significant inverse relationship between the level of misdemeanor arrests and the level of crime in New York precincts (Kelling and Sousa, 2002).

Taken in its totality, there is evidence to support the assertion that police practices make a difference in crime. Enforcing drug laws and pursuing drug dealers and users aggressively can have a positive impact on communities. Drug enforcement can help communities establish norms of order and help shape the behavior of residents to conduct themselves in an orderly and lawful fashion. The above research lends support to the argument that police activity, in particular enforcement of drug use and sales, can have an effect in reducing crime.

F. Harcourt School

As persuasive as the above research may be, the issue is by no means resolved. Bernard Harcourt, in his work *Illusions of Order: The False Promise of Broken Windows Policing*, reexamined Skogan's data and could not justify his findings. In fact, Harcourt argues that Skogan's most compelling finding: disorder is significantly related to robbery rates, disappears when one set of observations from one city is set aside from the analysis. Also, Harcourt contends that the selection of "disorder" is an inappropriate

independent variable and more realistically a dependent variable in the discussion of community order. He also argues that Skogan's data was contaminated by missing values and that any crime decline associated with the police was caused by increased surveillance of minor offenses. (Harcourt 2001)

Joannes (2000) asks the specific question: does the NYPD deserve credit for the decline in New York City's homicide rate? The answer, after comparing the homicide trends between New York and other American cities, is a resounding no. She contends that the cost of overly aggressive police tactics: brutality, erosion of community confidence in the police, wrongful arrest, overloading the criminal justice system, etc. are not warranted in the context of naturally recurring cyclical homicide rates (Joannes 2000). This aggressive style of policing is inconsistent with democratic principles of justice and serves little purpose except to marginalize an entire segment of the population.

Gary Stewart (1998) would likely expand upon Joannes's argument and contend that the so called "broken windows" brand of policing is nothing more than a modern-day legal and police-related means of controlling racial minorities. Furthermore, the police policies explicit in this approach meet the definition of aversive racism, where bias is directed against racial minorities by a person who is outwardly "liberal" yet harbors dissonant racial feelings (Stewart 1998). The broken windows approach, therefore, has little to do with crime control and more to do with minority control.

Other scholars attack the zero tolerance approach on different grounds. Livingston condemns the entire approach of "order maintenance" as unnecessarily vague. That the police are asked to enforce statutes that cannot withstand a vagueness challenge

(*Papachristou v. City of Jacksonville*) adopted by the courts and are left open to too much police discretion, thus undermining public order statutes (Livingston 1997). The result becomes an over-reliance on “extralegal” police means to enforce the informal demands of the community (Sykes 1986). Furthermore, Fagan and Davies analyzed the patterns of stop and frisk activity of police officers in New York City to assess whether the practices of officers reflected the strategies embodied in the “broken windows” theory. They found little evidence to support claims that policing targeted places and signs of physical disorder, and show instead that stops of citizens were more concentrated in minority neighborhoods characterized by poverty and social disadvantage (Fagan and Davies 2000).

Lastly, Curtis argues that it was not the police at all that caused a reduction in crime and drug use. He contends that the drop in crime coincided with a simultaneous, and conscious, choice on the part of inner city use to renounce drug usage and return to, or initiate, legitimate pursuits. A cultural change occurred among inner city youth, a change in thinking about drugs and conventional activities, and a turn away from drugs and violence (Curtis 1998).

The debate continues. Empirical and anecdotal evidence exists on both sides of the aisle whether “broken windows” policing has any role in modern police tactics, or is it nothing more than an overly aggressive style of police intervention that alienates and marginalizes minority communities. The “Kelling School” and the “Harcourt School” offer compelling arguments both for and against “broken windows policing.” This research will attempt to enlighten this argument and provide an empirical understanding of the issue using a central tool of law enforcement in this arena. Drug use and sales are

of critical importance to community order. Community order is thought to be associated with crime. Can, therefore, enforcement of drug laws, contribute to a reduction in crime and a strengthening of community controls? The body of this work analyzes the relationship between drug arrests and serious crime in Queens, New York during the late 1990s. This examination will undoubtedly shed further light on this issue and help to explain important considerations from a criminological and organizational perspective.

III. HYPOTHESIS

The primary aim of this research endeavor was to examine empirically the relationship between drug enforcement strategies and serious crime in Queens County from 1995 to 2001. Moreover, this research also permitted a greater exploration of an enforcement program employed by the New York City Police Department called Narcotics Initiatives. The research, therefore, examines the drug-crime relationship, as well as the methods by which the NYPD addressed this issue. Therefore, the hypotheses of this research were as follows:

Hypothesis 1

Drug enforcement will have a direct impact on the level of serious offending in police precincts in Queens. In general, as the level of drug enforcement increases the level of serious crime will be reduced.

Hypothesis 2

The relationship between drug enforcement and serious crime will be present in all precincts throughout Queens. The relationship will be present after controlling for selected demographic variables.

Hypothesis 3

The impact of drug enforcement will be greatest in the neighborhoods staffed with Narcotics Initiatives. Those precincts where Narcotics Initiatives are deployed will show the greatest decrease in serious crime.

Hypothesis 4

Enforcement of drug offenses will be significantly related to reductions in all categories of serious crimes.

Hypothesis 5

The use of the enforcement strategy under the Narcotics Initiatives had an impact on the arrest rates for drug offenses and contributed, therefore, to the change in crime rate in precincts benefiting from this deployment.

Hypothesis 6

Using the Nuisance Abatement ordinances in the New York City Administrative Code to seize properties associated with narcotics activity is an effective method of reducing crime in police precincts in Queens. As Nuisance Abatement closings increase, therefore, serious crime will decrease.

Hypothesis 7

The use of Narcotics Initiatives by the NYPD is a viable strategy to reduce crime. Furthermore, the Initiatives can be deployed without an increase in community complaints, and without a negative impact on surrounding neighborhoods via crime displacement.

IV. METHODOLOGY

In order to properly frame the research in question, an accurate and logical description of the variables being used must be undertaken. Furthermore, once properly conceptualized, it is necessary to explain exactly how each of these variables will be measured.

A. Conceptualization of Variables

Conceptualization is the process through which the variables under examination in the research are specified precisely. The dependant and independent variables are described below:

1. Serious Crime

For the purposes of this research “serious offenses” will include seven of the eight crimes reported to the Federal Bureau of Investigation on the Uniform Crime Report. Collectively known as “Part I Index Crimes,” the offenses of Murder/Non-Negligent Homicide, Rape, Robbery, Felony Assault, Burglary, Grand Larceny, and Grand Larceny Auto will be used to measure serious crime. The NYPD collects information on these events and reports them to the FBI on an annual basis. These broad categories correspond to the following statutes in the New York Penal Law:

Murder 1st Degree – Intentional murder and the victim is a police officer; correctional employee; a judge; a witness; the offender was in prison; the offender was a serial murderer; or, two or more victims from the same occurrence (§125.27 NYS PL).

Murder 2nd Degree – Intentional Murder; a person kills another under circumstances which indicate a depraved indifference to human life; causes the death of another while committing a robbery, burglary, kidnapping, arson, rape, sodomy, sexual abuse, aggravated sexual abuse, or escape (§125.25 NYS PL).

Manslaughter 1st Degree – Intent SPI cause death, recklessly cause death (§125.20 NYS PL).

Manslaughter 2nd Degree – Recklessly cause the death of another (§125.15 NYS PL).

Rape 1st Degree – Engage in sexual intercourse with a female by force; when the female is physically helpless; or less than 11 years old (§130.35 NYS PL).

Rape 2nd Degree – Engage in sexual intercourse with another person who is less than 14 year old (§130.30 NYS PL).

Rape 3rd Degree – Engage in sexual intercourse with another who is less than 17 and the offender is 21 years old or more (§130.25 NYS PL).

Robbery 1st Degree – Forcibly steal property and the offender is armed with a deadly weapon; uses or threatens the use of force; causes serious injury to a non-participant in the crime; or displays a firearm (§160.15 NYS PL).

Robbery 2nd Degree – Forcibly steal property and the offender is aided by another person actually present; or causes a physical injury to a non-participant in the crime (§160.10 NYS PL).

Robbery 3rd Degree – Forcibly steal property (§160.05 NYS PL).

Assault 1st Degree – Intend and cause serious physical injury by means of a deadly weapon or dangerous instrument; disfigure or permanently disable a person; cause serious physical injury to a person under circumstances where the offender exhibited depraved indifference to human life; or, cause serious physical injury to another during the commission of a felony (§120.10 NYS PL).

Assault 2nd Degree – Intend and cause serious physical injury; cause physical injury with a weapon; injures a peace officer in their performance of duty; recklessly cause serious physical injury using a weapon; cause a stupor to a person without their consent; cause a physical injury to someone during the commission of a felony; cause a physical injury to someone while in jail; or, being 18 or more and intend and cause injury to a person who is less than 11 (§120.05 NYS PL).

Burglary 1st Degree – Knowingly and unlawfully enters a dwelling to commit a crime therein and is armed with a weapon; causes physical injury to a non-participant in the crime; uses or threatened the use of a weapon; or, displays a firearm (§140.30 NYS PL).

Burglary 2nd Degree – Knowingly and unlawfully enters a building with the intent to commit a crime therein and is armed with a weapon; causes physical injury to a non-participant in the crime; uses or threatens the use of a weapon; displays a firearm; or, the building is a dwelling (§140.25 NYS PL).

Burglary 3rd degree – Knowingly and unlawfully enters a building with the intent to commit a crime therein (§140.20 NYS PL).

Grand Larceny 4th Degree – Steals property and the value of the property is: greater than \$1000; a public record; secret scientific material; credit or debit card; removed from the person regardless of value; a firearm; or, a religious article (§155.30 NYS PL).

Grand Larceny 3rd Degree – Steals property valued greater than \$3,000 (§155.35 NYS PL).

Grand Larceny 2nd Degree – Steals property valued greater than \$50,000; or, through extortion (§155.40 NYS PL).

Grand Larceny 1st Degree – Steals property valued greater than \$1,000,000 (§155.42 NYS PL).

Grand Larceny Auto – Steals property the property consists of a Motor Vehicle valued at greater than \$100 (§155.30 [8] NYS PL).

These particular sections of the New York State Penal Law were selected because these are the crimes that the NYPD selected to indicate the level of serious crime in all precincts. The total numbers of crimes in each of the above categories is tabulated each week and is used to evaluate the precinct's relative rate of crime under the NYPD's Compstat process. They serve as a useful measure to gauge the amount of serious crime in a particular precinct and make inferences about the method used by the NYPD to evaluate performance and improve conditions. Using the "report card" of the NYPD permits evaluation of the "report card" itself and the change in the rate of serious crime over the period in question (NYPD "The Compstat Process," 1996).

The FBI Uniformed Crime Report (UCR) depicts what crimes have been reported to the police and then reported by the police to the FBI. It is recognized that the UCR system used by the FBI is not a complete representation of crime in a given area. Rates of Robbery and Rape, for example, are drastically underreported. These two crimes are estimated to be reported at only 50 percent of the actual level of occurrence (Yablonsky,

1990). Also, property crimes, like burglary, and grand larceny suffer similar incidents of underreporting (Yablonsky, 1990). On the other hand, homicide is most accurately reported. There is no ignoring a dead human body, and the reporting of deaths in most jurisdictions in the US is mandated by law, thus improving the actual count of this crime. Felony assault, similarly, often requires medical attention, which will also require the attending doctor to report to the local police. Furthermore, the theft of automobiles is also likely to generate a report to the police. Insurance reasons, and state title and registration requirements, make the theft of an automobile more likely to be reported than other forms of property theft (Yablonsky, 1990). According to the President's Commission on Law Enforcement, the actual amount of crime in the US is several times that reported in the Uniform Crime Reports. The reasons most frequently given were (1) the police could not do anything; (2) the victim did not want to harm the offender; (3) the victim feared reprisal. (President's Commission on Law Enforcement, 1967, pg. 21-22).

A second source of crime information is actual victim surveys. A victim survey is a survey of households in which people are asked whether they have been a victim of a crime during the preceding few months. An annual victim survey has been conducted in the US each year since 1973 that involves questioning about 160,000 people located in about 84,000 households (Wilson and Petersilia, 1995).

These two sources of information often produce different results. The National Crime Victimization Survey (NCVS) shows more crimes being committed than does the UCR (Wilson and Petersilia, 1995, pg. 6). And often times the two general measurements show crime rates for different categories of crime moving in different directions (Wilson and Petersilia, pg. 6).

In general, however, both sources of information, flaws and all, are adequate sources of data to measure crime rates in a given area. Because this study looks at precinct-level, and monthly trends, it is important to use a measurement of crime that is captured at these frequencies. The NVCS is not collected in this fashion, whereas, the UCR in New York City is. So for the purposes of this research the UCR Part I Index crimes have been selected as the measurement of serious crime. The UCR meets both the commonly accepted definition of crime, lends itself to easy collection, and is quantified at the geographic area, and time interval necessary to complete this study.

This information is collected by the NYPD in an ongoing process, broken down by precinct of occurrence. Numerical counts of these data, by month, by precinct of occurrence, for a six year period, for a total of 8,064 observations (7 categories of crime x 16 precincts x 72 months = 8,064) will be collected. The amount of serious offenses is the dependant variable and will be analyzed in relation to the levels of drug enforcement.

It is also important to consider the size of the population residing in each precinct when evaluating the level of crime. Arguably, precincts that are more populated will have higher levels of crime. To overcome this impact, therefore, level of serious crime will be translated into rate per 100,000 residents. This will mitigate the influence of sheer population size on the level of serious crime.

2. Drug Enforcement

For the purposes of this study, drug enforcement will include all drug arrests, misdemeanor and felony, affected by any law enforcement personnel within the precincts

being examined. These offenses are described in the New York State Penal Law under Articles 220, and 221, and are as follows:

Criminal Possession of a Controlled Substance 7th degree – Knowingly and unlawfully possess a controlled substance (§220.03 NYS PL).

Criminal Possession of a Controlled Substance 5th degree – Knowingly and unlawfully possess a controlled substance: with intent to sell; a narcotic preparation weighing one-half ounce or more; 50 milligrams of phencyclidine; one-quarter ounce of concentrated cannabis; or, 500 milligrams of cocaine (§220.06 NYS PL).

Criminal Possession of a Controlled Substance 4th degree – Knowingly and unlawfully possess a controlled substance: weighing more than one-eighth ounce of a narcotic drug; one-half ounce or more of methamphetamine; two or more ounces of a narcotic preparation; one gram of a stimulant; one milligram or more of LSD; 25 or more grams of a hallucinogen; one gram or more of a hallucinogenic substance; 10 ounces or more of a dangerous depressant; two pounds or more of a depressant; one ounce or more of concentrated cannabis; 250 milligrams or more of PCP; 360 milligrams or more of methadone; or, 50 milligrams or more of PCP with intent to sell and has been convicted of a prior drug offense (§220.09 NYS PL).

Criminal Possession of a Controlled Substance 3rd degree – Knowingly and unlawfully possesses: a narcotic drug with the intent to sell; one gram or more of a stimulant with intent to sell; one milligram of LSD with intent to sell; 25 milligrams or more of a hallucinogen with intent to sell; one milligram of a hallucinogenic substance with intent to sell; one-eighth ounce or more of methamphetamine with intent to sell; five grams or more of a stimulant; five milligrams or more of LSD; 125 milligrams of a hallucinogen; five grams or more of a hallucinogenic substance; one-half ounce or more of a narcotic drug; or 1,250 grams or more of PCP (§220.16 NYS PL).

Criminal Possession of a Controlled Substance 2nd degree – Knowingly and unlawfully possesses: two ounces or more of a narcotic drug; two ounces or more of methamphetamine; ten grams or more of a stimulant; 25 milligrams or more of LSD; 625 milligrams of a hallucinogen; or, 2,880 milligrams of methadone (§220.18 NYS PL).

Criminal Possession of a Controlled Substance 1st degree – Knowingly and unlawfully possess: four or more ounces of a narcotic drug; or, 5,760 milligrams or more of methadone (§220.21 NYS PL).

Criminal Sale of a Controlled Substance 5th degree – Knowingly and unlawfully sell a controlled substance (§220.31 NYS PL).

Criminal Sale of a Controlled Substance 4th degree – Knowingly and unlawfully sell: a narcotic preparation; ten ounces or more of a dangerous depressant or two pounds of a depressant; concentrated cannabis; 50 milligrams or more of PCP; methadone; or, any controlled substance to a person less than 19 on school grounds (§220.34 NYS PL).

Criminal Sale of a Controlled Substance 3rd degree – Knowingly and unlawfully sell: a narcotic drug; one gram or more of a stimulant; one milligram or more of LSD; 25 milligrams or more of a hallucinogen; one gram or more of a hallucinogenic substance; one-eighth ounce or more of methamphetamine; 250 milligrams or more of PCP; or, a narcotic preparation to a person less than 21 years old (§220.39 NYS PL).

Criminal Sale of a Controlled Substance 2nd degree – Knowingly and unlawfully sell: one-half ounce or more of a narcotic drug; one-half ounce or more of methamphetamine; five grams or more of a stimulant; five milligrams or more of LSD; five grams or more of a hallucinogenic substance; or, 360 milligrams or more of methadone (§220.41 NYS PL).

Criminal Sale of a Controlled Substance 1st degree – Knowingly and unlawfully sell: two or more ounces of a narcotic drug; or, 2,880 milligrams or more of methadone (§220.43 NYS PL).

Criminal Sale of a Controlled Substance in or near school grounds – Knowingly and unlawfully sell a controlled substance to a person less than 19 years old on school grounds (§220.44 NYS PL).

Criminally possessing a hypodermic instrument – Knowingly and unlawfully possesses or sells a hypodermic syringe or needle (§220.45 NYS PL).

Criminal Injection of a Narcotic Drug – Knowingly and unlawfully possesses a narcotic drug and injects it by means of a hypodermic syringe or needle into another person without that person's consent (§220.46 NYS PL).

Criminally Using Drug Paraphernalia 2nd degree – Knowingly and unlawfully possesses or sells: any material that is used under the circumstances to prepare a narcotic drug or stimulant for use or sale; or, capsules, glassine envelopes, vials or any material suitable for packaging, manufacturing, dispensing of a narcotic drug or stimulant; or, scales or balances designed for the purpose of weighing any narcotic drug or stimulant (§220.50 NYS PL).

Criminally Using Drug Paraphernalia 1st degree – Commit Criminally Using Drug Paraphernalia 2nd degree and have been previously convicted of the same offense (§220.55 NYS PL).

Criminal Sale of a Prescription for a Controlled Substance – Knowingly and unlawfully of sells a prescription for a controlled substance (§220.65 NYS PL).

Criminal Possession of Marijuana 5th degree – Knowing and unlawfully possess marijuana: in a public place and it is burning and in public view; or, 25 grams or more (§221.10 NYS PL).

Criminal Possession of Marijuana 4th degree – Knowingly and unlawfully possess more than two ounces of marijuana (§221.15 NYS PL).

Criminal Possession of Marijuana 3rd degree – Knowingly and unlawfully possess more than eight ounces of marijuana (§221.20 NYS PL).

Criminal Possession of Marijuana 2nd degree – Knowingly and unlawfully possess more than 16 ounces of marijuana (§221.25 NYS PL).

Criminal Possession of Marijuana 1st degree – Knowingly and unlawfully possess more than 10 pounds of marijuana (§221.30 NYS PL).

Criminal Sale of Marijuana 5th degree – Knowingly and unlawfully sells two grams or less of marijuana, or one marijuana cigarette (§221.35 NYS PL).

Criminal Sale of Marijuana 4th degree – Knowingly and unlawfully sell marijuana (§221.40 NYS PL).

Criminal Sale of Marijuana 3rd degree – Knowingly and unlawfully sell more than 25 grams of marijuana (§221.45 NYS PL).

Criminal Sale of Marijuana 2nd degree – Knowingly and unlawfully sell more than four ounces of marijuana; or, any amount to a person less than 18 years old (§221.50 NYS PL).

Criminal Sale of Marijuana 1st degree – Knowingly and unlawfully sell more than 16 ounces of marijuana (§221.55 NYS PL).

The above offenses are the entire list of criminal (misdemeanor and felony) drug offenses that appear in the New York State Penal Law. While they are all serious offenses under the law, punishable by terms in prison greater than one year, for the purposes of this study arrests made under these sections of the Penal law will be considered an independent variable with the potential to influence other serious criminal activity. In addition to the seriousness of drug offenses under the law, drug use and sales have an enormous impact of the conditions of neighborhood life. As discussed earlier,

drug use and sales are being viewed in this research for their potential to undermine community order, contributing to both creation of an environment for other serious offenses and the impetus for other serious offenses because of the drug trade.

Similar to the level of serious crime, the level of drug enforcement will be translated into rate of arrest per 100,000 residents. Once again, it can be argued that the number of arrests for drug offenses may be related to the size of the population within the precinct. To control for this influence, rate of arrest per 100,000 residents will be used.

3. Demographic Variables

For the purpose of this study certain demographic and economic variables will be examined to determine their relationship to the rate of crime. As indicated above, many social scientists recognize the decrease in crime during the last 15 years and have postulated many theories to explain this decline. Shifting population demographics is one of these explanations (Blau & Blau, 1982; Curtis, 1998; Fagan & Davies, 2000; Harcourt, 2001; Havermann, 1998; Kornhauser, 1978; National Center for Education, 1998; Stewart, 1998). To explore the impact of changing population demographics on crime, several variables will be used that have previously demonstrated an association with crime. These variables are both economic and non-economic in nature and provide a useful demographic context for exploring crime patterns. For this research population density, minority representation, change in neighborhood ethnic make-up, educational attainment, unemployment, income level, poverty level, and public assistance utilization will be used as indicators of population demographics. These variables will be used to account for crime rates within Queens' precincts during the period under examination.

Poverty may interact with negative community features and consequently produce numerous public health problems including crime (Elliot, 1993; Blumstein, 1995). Findings from the Office of Juvenile Justice Delinquency Prevention project on the causes and correlates of delinquency reaffirm the link between delinquency and poverty. Poverty appears to function as a critical nexus, or catalyst, for a multitude of other behavioral problems which are also significantly correlated to crime and delinquency. (Hawkins, Catalano, and Miller, 1992) In adult populations high unemployment rates have been shown to be positively related to crime (Farrington, 1991). Furthermore, criminals are often indigent and live in areas that are afflicted by poverty and show higher burglaries, robbery, and larceny rates than middle or upper class neighborhoods (Farrington, 1991).

As a proxy of poverty, it is also useful to examine median income levels, and the percentage of a population receiving public assistance. Combined, these variable (poverty, public assistance, median income, and unemployment) can provide a summary of the economic position of a community and the relationship that economic disadvantage might have with the incidence of reported crime.

Studies examining the relationship between race and crime repeatedly report an overrepresentation of minorities, especially African-Americans, within the adult criminal justice system. African-Americans are overrepresented by a factor of four to one among persons arrested for violent crime and three to one for property crime. (Wilson and Herrnstein, 1985) This overrepresentation is also evident in the juvenile justice system with the greatest disparity at the initial intake and detention stages of processing (Pope

and Feyerman, 1991). Also, minority rates of confinement in juvenile detention facilities are five times the custody rate for white juveniles (Snyder and Sickmund, 1995). The percentage of minority residents in a given precinct, therefore, becomes important in understanding the incidence of reported crime.

A relationship has also been found between characteristics of a community's structure and its respective crime rate. Hawkins, Catalano, and Miller (1992) found that increasing urbanization and high population density may exacerbate the level of crime in neighborhoods. The FBI publishes a report listing what demographic factors influence crime, notably population density and the degree of urbanization, are high on this list (Crime Factors Web, 2004). High population has also been shown to lead to higher residential crime rate. Continuing with this line of reasoning has lead to the conclusion that higher population density also leads to a higher crime rate. (Crime Factors Report: Cambridge, 2003)

Changing Neighborhood and population stability is also important in understanding community crime. Elliot (1993) has found that stable, close-knit populations have a lower overall crime rate. Furthermore, community structure and the degree of organization within a community have been postulated to be significant factors when explaining the variation between different communities (Elliot, 1993). Similar to other factors listed above, the FBI has listed neighborhood stability as an indicator commonly associated with crime (Crime Web Report, 2004).

Lastly, Gottfredson (1981) reported an inverse relationship between intellectual ability and delinquency. Consequently, the likelihood of engaging in violent behavior is intensified with lower intellectual ability (Elliot, 1993). Elliot asserts that academic

underachievers and troublemakers are often grouped together in the same classroom. Delinquent gangs may form as a result of the close association. Educational attainment, therefore, becomes an important factor in exploring the incidence of reported crime. A better educated community would likely translate into a lower crime rate. Conversely, poor educational attainment can lead to many other social disadvantages from employment to income, to job and residential stability, that educational attainment would be important in correlate of crime in a community. It becomes important, therefore, to understanding the crime-drug-demographic relationship.

For the purposes of this study population density, minority representation, income, poverty level, public assistance utilization, educational attainment, changing community ethnic characteristics, and unemployment, will be used to explore the changing incidence of reported crime. These factors will be used to control for, or explain, shifts in crime, and provide a better understanding of the impact of demographic factors on crime.

4) Narcotics Initiatives

The concept of the Narcotics Initiative evolved in the NYPD over time. When Commissioner Bratton entered the NYPD in 1994 he went to work immediately on reshaping the way the NYPD approached the enforcement of drug laws. Through a process Bratton called a “cultural diagnosis” he discovered that narcotics enforcement in the NYPD needed to change. (Bratton, 1998)

At that time, Tactical Narcotics Teams (TNT), which began in 1988, were still the centerpiece of the Narcotics Division’s response to drug trafficking in the years before

Bratton arrived in the NYPD. TNT consisted of intensive buy-and-bust operations in defined geographical areas for a fixed period of time. Although TNT was predicated on effecting large numbers of street level arrests, this approach seemed to do little to reduce crime, and it did not result in a greater degree of community satisfaction. (NYPD, 1996) In 1993, the Vera Institute of Justice published a comprehensive study of TNT. The study concluded that TNT was successful at impeding drug activity in many neighborhoods, but did little to eliminate the drug problem altogether. The Vera report specifically concluded that TNT was not well coordinated with other operational components of the NYPD. The strategies for holding areas that were reclaimed by TNT operations were not designed or implemented, and TNT enforcement operations were predictable and rigid, in that enforcement was generally conducted on weekdays before 6:00PM. The enforcement, therefore, did not target times and days when drug activity was prevalent, but simply when it was most convenient for the TNT. (Vera, 1993; NYPD, 1996)

In response to this uncoordinated approach to drug enforcement, Commissioner Bratton, by way of his cultural diagnostic, developed Strategy # 3, "Driving Drug Dealers Out of New York." As mentioned previously, this strategy was designed to not just impede, but to eliminate drug dealing from New York City. And most importantly, it was implemented within the context of overall crime reduction and the Compstat process. The NYPD, under this strategy, recognized two important things: 1) making drug arrests without a coordinated and targeted approach was doomed to fail as a measure to eradicate drug activity, and 2) there was a strong nexus between illicit drug activity and illegal firearms. The response to both these problems was the creation of what would be called

“Strategic Narcotics and Gun” teams (SNAG). SNAG teams would work closely with other operational components of the NYPD, attack drug activity when and where it was happening, and intensify investigations into the use, sale, transport, etc., of illegal firearms. (NYPD, 1996)

While the SNAG teams were an improvement over their TNT predecessors, there was still an important ingredient missing from the NYPD's drug control policy. The missing link in this process was the lack of geographic responsibility at the precinct level. Deputy Chief Denis McCarthy offered some interesting observations and was able to articulate the shortcomings of the SNAG approach. (McCarthy Interview, 2004)

According to Deputy Chief McCarthy, the need to change approaches in combating drug activity became apparent in 1995. McCarthy was in charge of a Narcotics Unit in Manhattan during 1994, 1995 and 1996, and was given the assignment to eliminate drug dealing on the lower east side of Manhattan. In particular, there was a location in the “East Village” on 11th street between avenues A and B, known as “the rock.” Everyone in this neighborhood knew “the rock” as a place to buy drugs. Confronted with a rising tide of community complaints about “the rock” McCarthy went about his business of using Strategy # 3 to attack the drug trade on E11th Street. After several weeks McCarthy was invited to attend a community meeting to discuss drug conditions in the precinct in general and on 11th Street in particular. Armed with a huge stack of arrest reports documenting his efforts, McCarthy attended the meeting to inform the community that the NYPD and the Narcotics Division were being responsive to their problems. Much to Chief McCarthy's surprise, the community was not satisfied with the stacks of arrest reports his unit generated, instead they were irate. During this meeting

the neighborhood got a chance to explain to him that the buyers lined up down the street to buy their goods, and that there was a specific brand name that was being sold by one individual who was then supplying many low level dealers. At this point, according to McCarthy, he grasped the occupational mission and needs of this new approach and began to change the way his unit functioned. McCarthy's approach would now center on identifying the product by its "brand name." Knowing the products "brand" allowed investigators to debrief, or interview, persons arrested for dealing that brand of drug and learn about the organization behind the street sales. Identification of the drug gang behind the street sales permitted deeper penetration into the organization and a better chance to eliminate the problem altogether. (McCarthy Interview, 2004)

After a thorough investigation into drug sales at "the rock," McCarthy and his unit learned that the "bad boys" brand of heroin was being sold on the street by the hundreds. Dealers would get 10, \$10 bags of heroine, and be expected to return \$80 to their supplier. (They could profit the \$20 or shoot-up the two extra bags) The supplier got his inventory from the main dealer who worked out of a barber shop on 11th street. Over the course of several weeks, and hundreds of arrests, McCarthy's team was able to learn the identities of the minor and major players in the operation, and they way they did business. Armed with this information, a plan was developed to eliminate the drug organization altogether. The plan focused on bringing down the gang and seizing the locations from where they plied their trade.

Less than three months after the contentious community meeting, the Narcotics Division was armed with 10 Search and Arrest Warrants, as well as a civil injunction against the 11th street Barber Shop. In one crushing blow, the warrants were executed

and both the drug gang and the location at the center of it all were put out of operation. More importantly, it was this beginning of new drug enforcement policy. The policy consisted of a three-prong approach to enforcement: one centered on the gang, identified through debriefings and brand identification; the other centered on the location from which the organization operated; and a third centered on preventing another gang from setting up shop after the first drug gang is eliminated.

This three-prong approach to drug enforcement was the foundation of the “Narcotics Initiative” strategy and the operational philosophy employed by the NYPD in developing, staffing, and deploying personnel in the SEQI and QNNI. This strategy would refocus enforcement efforts targeted at drug markets through a problem solving approach. Drug use and sales were not going to be looked at as isolated events. Since they fit into a pattern of behavior with a history and an organization, the NYPD could use this three-prong approach to eliminate the conditions altogether. Until this time the NYPD was dealing with the visible signs of the problem and not the problem itself. The Narcotics Initiative strategy would focus on the underlying conditions that permitted drug markets to operate through eradication of the organizations and locations behind them.

This change in NYPD operations with respect to narcotics enforcement and criminal activity, highlighted by the above scenario, can be looked at from four different dimensions. Borrowing the typologies used by Gary Cordner to examine Community Policing, the change in NYPD operations can be looked at from philosophical, strategic, tactical, and organizational dimensions (Cordner, 1993). The philosophical dimension relates to the central ideas and beliefs underlying narcotics enforcement. The strategic dimension includes the key operational concepts that translate philosophy into action.

The tactical dimension ultimately translates the ideas, philosophies, and strategies into concrete programs and practices. And finally, the organizational dimension involves the changes in organization, management and administration of the NYPD to support the change in narcotics enforcement.

From a philosophical standpoint, the role of narcotics enforcement in the NYPD needed to change. The new approach would not simply look at drug use and sales as isolated incidents, but part and parcel of an overall crime problem. The nexus to guns identified by Commissioner Bratton was an important step towards integrating narcotics enforcement within the overall crime reduction strategies of the NYPD. Drug enforcement was now being looked at as a mechanism to reduce illicit drug use, and as a mechanism to reduce violence and other criminal activity. Philosophically, narcotics enforcement would now become an important feature of the crime fighting mission for the NYPD. This philosophical shift in the nature of narcotics enforcement would require a similar shift in both the strategy and tactics of NYPD operations.

This strategy began to take shape in Manhattan's lower east side in early 1995 in the Manhattan South Narcotics District, the parent command in the organization of McCarthy's Unit, which was called the Downtown Narcotics District (NYPD Organization Guide Section 101-21). Units like the Downtown Narcotics District would now be expected to approach narcotics enforcement from a different angle. No longer would unfocused, uncoordinated enforcement be permitted. Efforts had to be made to use narcotics enforcement to be part of the bigger crime reduction picture, and this had to be accomplished using the three-prong approach described above. From a strategic

standpoint the shift in narcotics enforcement can be distinguished from its predecessor by identifying and then eliminating the gang/organization responsible for the drug distribution, identifying and eliminating the location from which the enterprise operated, and maintaining the area after the gang is eliminated and preventing another group from occupying the vacuum created after the previous gang is eliminated.

The tactics used by the Downtown Narcotics District and its progeny would combine the old tried-and-true methods of buy-and-bust, and an aggressive arrest policy. This is an important artifact of previous narcotics enforcement efforts. The new approach, however, is not simply making arrests for the sake of generating activity. The new approach targets the arrest to the times when crimes and violence are most common. The arrest, under this new approach, was looked at as an opportunity to disrupt other potential criminal activity. Drug arrests, therefore, at the times and places when violence and other serious crimes are most frequent, can act as catalysts to reduce these other crime. The arrest was also used as a means of debriefing arrested persons to gain intelligence information about the drug gang and thus provide the basis for arrest and search warrants, and civil injunctions. (NYPD Strategy 1996)

The aggressive arrest and debriefing policy permitted the NYPD to create “set books” for narcotics prone locations. These “set books” would contain information pertinent to the people and locations involved in drug deal at particular locations, known as “sets.” Careful recording of information in these “set books” gave the NYPD the opportunity to properly identify the brand of drug, the gangs/organizations responsible for dealing, and the location involved. These records served as the basis to direct enforcement efforts and as the foundation for criminal prosecutions against the

gangs/organizations, and civil proceedings against the locations involved in narcotics dealing. (NYPD, 2001)

Perhaps the most innovative tactic employed under this new strategy was the use of civil injunctions, known as Nuisance Abatement closings, to eliminate locations that were used in the drug trade. Under the New York City Administrative Code Nuisance Abatement provisions, the NYPD was able to initiate proceedings in Civil Court when there were two or more documented incidents of defined “nuisances.” With two or more incidents on record, the NYPD could petition the court to close down these establishments and prevent them from creating any further nuisance to the community.

Another new tactic of the Narcotics Initiatives was the coordination and use of uniformed personnel. Typically, narcotics enforcement is done by plainclothes, or undercover police officers. The Narcotics Initiatives would rely on uniformed police officers to help stabilize narcotics prone locations after drug gangs were eliminated. One of the criticisms from the Vera Institute’s report on TNT was that drug dealing quickly resumed after arrests were made (Vera, 1993). Without follow-up attention paid by the police to keep the area drug free, other individuals would step in quickly after one organization was eliminated. To prevent this from re-occurring the NYPD staffed the Narcotics Initiatives with a complement of uniformed police officers to stabilize areas in the wake of the elimination of drug gangs.

The organizational changes made within the NYPD to support this change in enforcement philosophy were substantial. The Narcotics Division quickly recognized the impact of this new approach in early 1995 in the Downtown Narcotics District, and began to take steps to roll-out this strategy City-wide. The South Bronx Initiative was deployed

in September 1995, the Brooklyn North Initiative in July 1996, the Northern Manhattan Initiative in August 1996, the SEQI in November 1997, the QNNI in February 1999, and the Brooklyn South Initiative in March 1999. Within four years the Narcotics Division more than doubled from 1323 police officers and investigators in January 1995 to a peak of 2869 police officers and investigators in February 1999 with the deployment of the Queens North Narcotics Initiative. With this massive build up in personnel also came a build up of equipment, facilities, overtime, and just about every other facet of organization and management. It was a massive organizational commitment of the part of the NYPD, and resulted in a substantial increase in activity from an enforcement standpoint. (NYPD, Narcotics Division Memorandum, April 20, 2000)

The Narcotics Initiatives became an important part in the enforcement strategies in the NYPD. What began as an innovative approach to drug enforcement in Manhattan in 1995, would expand on a city-wide basis, encompassing 27 of the department's 76 precinct commands. The implementation of these Narcotics Initiatives in a sequential fashion permits the examination of crime trends in these precincts affected over time. The before and after experience of precincts benefiting from deployment of the Narcotics Initiatives can be examined, as well as the crime experience of other commands in the same geographic vicinity. The combination of these two analyses allows for an understanding of the effect the Narcotics Initiatives had on the host commands, and also any displacement effects that might have occurred because of their deployment.

As mentioned above, one innovative tactics employed by the NYPD in general, and by the Narcotics Initiative commands in particular, was the use of the "Nuisance Abatement Law" to close locations determined to be creating a public nuisance. Known

within the NYPD as “Nuisance Abatement,” the NYPD sought to use this law to help address the locations involved in, and providing support to, illicit drug enterprises. The use of this law is important in understanding the overall enforcement strategy of the NYPD and the implementation of the Narcotics Initiative concept.

5) Nuisance Abatement

After the implementation of Strategy # 3, and the development and deployment of the Narcotics Initiatives, it became evident to the NYPD that the most efficient manner to deal with drug offenses was through a multidimensional approach. The approach resulted in three prongs: one prong targeting the organization behind the drug dealing; the other prong targeting the locations from where drugs were being sold; and a third stabilizing the location after the drug gang was eliminated. (McCarthy, 2004) Without an emphasis on the physical places selling, manufacturing, distributing, or storing drugs, the overall strategy would be incomplete. Beginning in 1993, the NYPD began employing an infrequently used section of the New York City Administrative Code known as the “Nuisance Abatement Law.” The Nuisance Abatement law is found in Title 7, Chapter 7 of the NYC Administrative Code and it empowers the Corporation Counsel, the lead attorney for New York City, to seek legal injunctions in the Supreme Court of New York State against premises that are creating a public nuisance. The Legislative declaration found in §7-701 states:

The council of the city of New York finds that public nuisances exist in the city of New York in the operation of certain commercial establishments and the use or alteration of property in flagrant violation of the building code, zoning resolution, health laws, multiple dwelling laws, penal laws regulating obscenity, prostitution and related conduct, licensing laws, environmental laws, laws relating to the sale and consumption of alcoholic beverages, laws relating to gambling, controlled substances and dangerous

drugs and penal laws relating to the possession of stolen property, all of which interfere with the interest of the public in the quality of life and total community environment, the tone of commerce in the city, property values and the public health, safety and welfare; the council finds that the continued occurrence of such activities and violations is detrimental to the health, safety, and welfare of the people of the city of New York and of the businesses thereof and visitors thereto. It is the purpose of the council to create one standardized procedure for securing legal and equitable remedies to the subject matter encompassed by this law, without prejudice to the use of procedures available under existing and subsequently enacted laws, and to strengthen existing laws on the subject.

Although this law was enacted by the New York City Council in 1977, it was very seldom used until the NYPD began to bring this law to bear on locations thought to be contributing to crime conditions in New York City neighborhoods. For example, in 1992 the NYPD secured 23 nuisance abatement orders; in 1993 that number rose to 122 (Ford Foundation, 1995). By 2000, the end of the period under observation, the number of nuisance abatement orders secured rose to over 200 in Queens County alone (NYPD Civil Enforcement Initiative, 2003). This dramatic increase in nuisance abatement can be explained by two factors. First, when the Nuisance Abatement law was enacted in 1977 it envisioned the New York City Corporation Counsel would be responsible for making the legal arguments in NY Supreme Court. Through the years the City's Corporation Counsel showed mild interest in this law and did not enforce it vigorously. The NYPD, under Jeremy Travis, the NYPD's Deputy Commissioner of Legal Matters, persuaded the NYC Corporation Counsel to permit the NYPD to make the necessary legal arguments in Supreme Court and let the NYPD execute the Nuisance Abatement order instead of the Corporation Council. Second, the NYPD began to understand the power and importance of this law and used it as a tool in reducing crime. The combination of these factors put the Nuisance Abatement law into the arsenal of the NYPD to address crime and quality of life conditions.

The Nuisance Abatement law authorizes the Police Department's Legal Bureau, under the designation of the NYC Corporation Counsel, to seek an order from the Supreme Court of New York State (Civil Branch) closing a premises that qualifies as a "public nuisance." (NYPD, 2002) A public nuisance is defined as a location engaged in recurring illegal activities over a period of time. Specifically, the legal requirements for establishing that a location is a public nuisance are a) three violations of the NYS Penal Law Article 220 (controlled substances); three violations of Penal law Article 221 (marijuana) on separate dates within a one year period (NYPD: 2002). The evidence must be presented to a judge and a civil injunction may be imposed closing the premises to all commercial activity for up to one year.

For the purposes of this study it is important to understand that the NYPD possessed a powerful enforcement tool to terminate illegal activity in locations determined to be a nuisance for up to one year. With as little as three arrests, one resulting in a conviction, the NYPD could close locations involved in drug dealing, manufacturing, storing, transporting, etc. From the perspective of Narcotics Unit Commanders, this was an important tool to address drug offenses (McCarthy, 2004). Not only could the behavior of the buyers and sellers be influenced through enforcement, but property owners and landlords could be influenced through the threat of having their properties closed down for up to one year. Furthermore, the second prong of the Narcotics Initiative, the location behind the drug distribution, could now be targeted for aggressive enforcement. This becomes important, therefore, in evaluating the success of the Narcotics Initiatives in Queens.

It is not simply the number of arrests effected, but also the arrests that trigger the Nuisance Abatement proceedings. The Narcotics Initiatives, as designed by the NYPD, would be responsible for an increase in the number of drug arrests, in the commands that benefiting from their presence. The Narcotics Initiatives would also be responsible for an increase in the number of Nuisance Abatement proceedings, and closures. These closures would also translate into a reduction in serious crime. Examination of the incidence of Nuisance Abatement, therefore, becomes important in understanding the effectiveness of the Narcotics Initiatives and the relationship of the Initiatives to the change in crime in Queens during the period of time being studied.

6) Civilian Complaints

Strategies that demand the police to be more aggressive in their arrest and enforcement practices are likely to be criticized. Some argue that the cost of overly aggressive police tactics: brutality, erosion of community confidence in the police, wrongful arrest, overloading the criminal justice system, etc. may not be warranted. (Joannes, 2000; Fagan and Davies, 2000) On face value, the strategy behind the Narcotics Initiatives employed by the NYPD involves more aggressive police tactics, and would likely generate more complaints from the public. Additionally, others argue that drug use is an addiction and therefore an illness, and should be treated with therapy and rehabilitation and not arrest and incarceration (Terkel, 1990). It is important, therefore, to examine the Narcotics Initiatives within this context.

One unique characteristic of New York City government is that it has an independent city agency designed to deal with citizen complaints against the police.

“The New York City Civilian Complaint Review Board (CCRB) is an independent (non-police) Mayoral agency that is empowered to receive, investigate, hear, make findings, and recommend actions on complaints against New York City Police Officers which allege the use of excessive or unnecessary force, abuse of authority, discourtesy, or the use of offensive language.” (CCRB Mission Statement, 2004) The agency is made up entirely of civilian employees (non-police) that conduct investigations into police conduct falling within one of the above categories. Findings are provided to the Police Commissioner, who is then empowered to mete out discipline as he determines.

Impartial enforcement of the law is one of the cornerstones of the democratic process. (Langworthy, et al, 2003) Police officers who abuse their powers can do tremendous harm to neighborhoods, and strain relations between the police and the communities they serve... Aggressive enforcement policies, even if they prove to be highly successful in eradicating drugs, or reducing crime, may not be worthwhile because of the negative repercussions felt within the community. What good is a low crime rate at the expense of a brutal, corrupt, and abusive police department? It is not an appropriate tradeoff to have low crime, but also abusive police. Complaints made to the CCRB are an important barometer in measuring police service. Aggressive enforcement that translates into abusive policing is unwarranted. Aggressive policing that translates into lower crime overall, and the elimination of drug markets is a valuable benefit to communities. Examination of the incidence and nature of civilian complaints in the wake of the deployment of Narcotics Initiatives is important in understanding the Initiatives’ true contribution to the quality of life in Queens’ communities. These complaints can be

compared to arrest rate, crime rate, and the timing of the Narcotics Initiative deployment to determine the impact of this presumably more aggressive style of law enforcement.

B) Operationalization of Variables

1) Drug Enforcement

Drug offenses, as described above, are the offenses listed in Articles 220, and 221, of the New York State Penal Law. Every arrest affected in Queens County in New York City is entered into the On-Line Booking System (OLBS). The OLBS is administered by the NYPD and is used by all agencies in the criminal justice system in New York City to process arrests. All arrests require entry into this system, which is then used to monitor cases as they proceed through arraignment, and to compile statistics on arrests and arrest-related data. The system can be queried to report on arrests by type, and for the purposes of this research, can compile data on drug arrests under Articles 220 and 221 of the NYS Penal Law, broken down by precinct of arrest and month of arrest. The report will provide 2,304 observations (16 Queens Precincts x 2 Categories of arrest [controlled substance & marijuana] x 72 months) for drug offenses in Queens County over a 72 month period.

2) Serious Crime

Serious crime, much in the same way as drug arrests, is reported using the NYPD's On-Line Complaint System (OLCS). The OLCS is a data management system used to prepare, analyze, and disseminate crime reports which occur in New York City. Each and every crime complaint is entered into this system and stored in a central

location. The system can be queried to report on the number of complaints received in a specific category, broken down by precinct and time period. The OLCS is easily queried and can generate custom reports suitable for analysis. For the purpose of this research, data will be compiled on Murder, Rape, Robbery, Felonious Assault, Burglary, Grand Larceny, and Grand Larceny Automobile as described above. This data will be captured by precinct on a monthly basis for the same time frame and precinct command identified for drug arrests

3) Demographic Variables

The demographic variable of interest, as mentioned previously, are poverty, public assistance, unemployment, income, population, population density, educational attainment, and community stability. These variables will be used to account for changes in the incidence of reported crime.

One of the missions of the New York City Department of Planning is to prepare strategic policies and plans to promote the orderly growth and improvement of New York City (Mayor's Management Report, 2004). To further this mission, the NYC Department of Planning collects information prepared by the US Census Bureau. The 2000 Census collected such information on community characteristics listed above. Information about median income, percentage of residents under the federal poverty level, percentage of persons collecting public assistance, percentage of persons obtaining a High School diploma, percentage of persons unemployed, as well as population, are all collected during the ten year census. The City Department of Planning takes this information

published by the US Census Bureau and carves out the information according to Community District.

The delivery of services in New York City is managed by the local Community Districts. Each of the City's 51 Community Districts is headed by a Chairperson that is elected every two years. The day to day operations of the District are also managed by a District Manager, who is a full-time City employee. New York City government relies on this structure to manage the delivery of services locally. Demographic data is necessary in order to properly represent the residents of these Community Districts in providing essential government services. To capture this information the City Planning Department takes the US Census data from the numerous census tracts and applies them to the appropriate Community District. A unique characteristic of the Community Districts is that they are co-terminus with police precinct boundaries. In Queens county, the borders of the community districts are identical to the police precincts. The data collected on population demographics, therefore, can be modeled on precinct crime and enforcement data.

4) Initiative

The effect of the Narcotics Initiatives on serious crime in the observation precincts is captured through dummy coding. At one level, during the months a Narcotics Initiative is deployed in a precinct, the variable will be coded with a "1" for that month. All other months not experiencing deployment of the Initiatives will be coded as a "0" for the month under observation. For precinct commands under the SEQI months prior to November 1997 will be coded with zeros. After November 1997, again

for SEQI precincts, and continuing through the end of the data set, the months are coded with a “1” indicating the presence of a Narcotics Initiative. Similarly, precincts benefiting from the deployment of the QNNI will be coded with a “1” after in February 1999 and continue through the end of the data set. All other precinct commands not benefiting from the QNNI will be coded with a “0.” Structuring the data in this fashion creates a repeated measures design. This model permits the observation of the change in crime and arrest rates during the times the Initiatives are in place.

For the purposes of hierarchical modeling, Narcotics Initiative can be coded as a dummy variable in data at both Level-1 as indicated above and at a higher level in level two. At Level-2, precincts are coded as either “1” Initiative Precinct, or “0” non-Initiative Precinct. This model allows for the observation of any displacement effects that might have occurred where drug markets moved to other, non-Initiative precincts, once the Narcotics Initiatives were deployed in their host precincts. Substitution within the two levels of data create statistics useful for examining any changes in the rate of crime and if there was any displacement of crime to other precincts during the time when the Initiative were in operation.

5) Nuisance Abatement

The Civil Enforcement Unit of the NYPD’s Legal Bureau is the entity responsible for coordinating the preparation, and presentation before a judge in New York State Supreme Court, of Nuisance Abatement proceedings described above. The Civil Enforcement Unit also has records dating back to the original Nuisance Abatement closing. Access to these records has been authorized by the NYPD and a tally of

Nuisance Abatement closings in the 16 precincts under observation has been obtained over the period under study, broken down by month of closing.

Because Nuisance Abatement petitions and closings can be made for several categories of crime, as described above, only closing related to Controlled Substance and Marijuana conditions will be included in this analysis. This information will simply be added to the data set with a tabulation of closings by month for Controlled Substances and Marijuana across the precincts in Queens for the 72 month study period. The information can be compared to crime rate and arrest rate to determine the impact of Nuisance Abatement efforts.

6) CCRB Complaints

Similar to the other data used in this analysis, CCRB Complaints are tabulated monthly. The CCRB provides information of all civilian complaints lodged against NYPD officers, on a monthly basis, across the precincts under observation for the study period in question. Data provided captures complaint totals lodged during a particular calendar month. Attribution of the complaints lodged to specific officers, or units in general cannot be made.

Aggressive police tactics are assumed to generate a greater frequency of civilian complaints against the police. Because of the nature of the data provided by the CCRB it is impossible to determine if complaints are lodged specifically against members of the Narcotics Initiatives in question. However, generalizations can still be made if sharp increases in complaints are observed. The converse is also true. If no discernable increase can be observed, then the generalization can be made that the deployment of the

Narcotics Initiatives did not have an impact on reported citizen dissatisfaction with the police.

7) Research Design

While it is generally preferable to construct a scientific research design to test the relationship between variables, often this is not possible. This is particularly true in social science research with regard to policing. The dilemma of withholding police services from a population of people to test, with scientific certainty, the outcome of police interventions would be problematic from an ethical, moral, or political perspective. It is possible, however, to take advantage of situations where “natural” experiments occur. This research takes advantage of a natural experiment that took place in New York City during the 1990s.

For the purpose of analyzing the relationship between these categories of variables, a quasi-experimental design will be used examining the experience of the county of Queens, NY. The design consists of a natural experiment where the NYPD selected certain police precincts to receive an increase in narcotics enforcement. These selected precincts were clustered into two separate groups in two different geographical areas in the borough of Queens, NY. This created four groups of precincts to analyze. In Queens, two groups of precincts received Narcotics Initiatives. These two grouping are the experimental groups. Examining the trends in crime before and after the Narcotics Initiative interventions can help determine their impact. Furthermore, the remaining precincts in Queens act as control groups. They did not experience an expansion of

narcotics enforcement. The crime trends in these precincts can be used as comparison groups to evaluate the effectiveness of the Initiative approach.

The development and staffing of Narcotics Initiatives by the NYPD was unique in many respects from a research design perspective because they offer a unique opportunity to examine their effectiveness. The Initiative concept was not implemented unilaterally across all NYPD precincts. Conversely, only certain commands were selected to receive Initiatives and the attendant increase in enforcement personnel. These commands were selected based upon incidence of narcotics complaints, and drug related violence (NYPD, 1995). Furthermore, clusters of precincts within similar geographic regions were selected to receive this build up of narcotics enforcement. Of most interest to this research is the experience of the two Initiatives implemented in Queens County in 1997 and 1999.

Queens County is a unique part of New York City. Largely a residential county, Queens has been referred to as New York City's "bedroom community," and is made up largely of single-family homes (Akerman, 2002; NYC Planning Dept., 2002). Queens is different demographically from the rest of New York City and offers a perspective that contrasts police efforts in more urban environments (NYC Planning Dept., 2002). Queens County can be described as a "suburb within a city." This distinction makes the study of narcotics enforcement there important because it can highlight the experiences of communities likely to be found in a greater percentage of the United States and makes it easier to generalize the results of this study.

The SEQI was implemented in the 103, 105 and the 113 Precincts in November of 1997. Fifteen months later, in February 1999, the Queens North Narcotic Initiative was implemented in the 110, 114, and 115 precincts. In the span of 15 months six of the

sixteen patrol precincts in Queens County were selected for intensified narcotics enforcement. The experience of these precincts serves as the backdrop for a natural experimental design. One set of three precincts, 103, 105, and 113 receive the “experimental treatment,” or the SEQI, while the remaining 13 act as controls. At fifteen months in the future, three more precincts, 110, 114, and 115, receive the “experimental treatment,” or the QNNI, while the remaining 10 precincts act as controls. Furthermore, the time periods before implementation of the Narcotics Initiatives will act as a pre-test for the effect of increased narcotics enforcement within the treatment precincts. The following table describes the initiative deployment:

Queens Narcotics Initiative Staffing Deployment

Precinct	Initiative Pct	Date Initiative Began	# Narcotics Officers Pre-Initiative	# Narcotics Officers Post-Initiative
100	N	-	0	0
101	N	-	18	18
102	N	-	9	9
103	Y	Nov. 97 SEQI*	18	126
104	N	-	18	18
105	Y	Nov. 97 SEQI	9	36
106	N	-	9	9
107	N	-	0	0
108	N	-	9	9
109	N	-	9	9
110	Y	Feb. 99 QNNI**	9	36
111	N	-	0	0
112	N	-	0	0
113	Y	Nov. 97 SEQI	18	72
114	Y	Feb. 99 QNNI	18	36
115	Y	Feb. 99 QNNI	9	36

Table # 1

*South East Queens Initiative

**Queens North Narcotics Initiative

(Source: NYPD Narcotics Division, 1999)

Data on serious crime complaints and drug enforcement will be collected on monthly intervals. For analytical purposes it is useful to have numerous points of observation before and after the implementation of an experimental condition in order to get a meaningful analysis. In this case it would be many months before November 1997 and after February 1999. To capture this time frame and permit meaningful analyses a six year study period will be used. This period extends from January 1995 through December 2000. This allows 34 months before the start of the SEQI and 22 months after the start of the QNNI. This 72 month time frame is sufficient to provide meaningful examination of the data.

V. Statistical Analysis

For the purposes of this research hierarchical linear modeling was employed to examine change in crime in the experimental and control precincts. Hierarchical linear models allow for the observation of data arranged in hierarchical structures and over the course of time (Raudenbush and Byrk, 2002). Hierarchical linear modeling is a type of regression analysis that takes into account that data are structured into different levels of aggregation. In this analysis two levels of aggregation are considered: time and precinct. The dependent variables will be examined over the course of repeated measures (monthly). “Predictor” variables will be included in order to account for the impact of drug enforcement, the presence of the Narcotics Initiatives, the impact of Nuisance Abatement closings, and the relationship of civilian complaints, and effect of key demographic variables at the precinct level. Reported crime will be the dependent variable. The level-1 unit is the time variable, represented by the 72 months of observation for each precinct – thus 1152 observation points. The level-2 unit is the precinct, represented by the 16 precincts.

The first step in the analysis is to estimate the importance of the two class variables, time and precinct, without the influence of any predictor variables. This is known as an unconditional model, and will examine the change in crime, if any, during the period under observation (Raudenbush and Byrk, 2002). The model can be represented by the following equations:

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

In the above equation γ_{00} , or fixed effect, is defined as the expected level of crime in each precinct with just one level-2 parameter, the y-intercept β_{0j} , when the number of narcotics arrests, or other predictor variables, is zero. The value of r_{ij} , the level-1 random effect, is assumed to be normally distributed with a mean of zero and a constant level-1 variance of σ^2 . Adding an element of time into this model allows for the understanding of how crime rate changed in precincts over time. This new model is represented by the following:

$$\text{Level-1 } Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$$

$$\text{Level-2 } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{01} + u_1$$

In this model the level-1 predictor variable added is a time variable, named TIME. This variable increases by one with each successive month. The month of December 1997 has the value “1” representing the first month of the Initiative deployment. Each month after December 1997 increases by one, and each month prior to December 1997 decreases by one $\{\dots -3, -2, -1, 0, 1, 2, 3 \dots\}$. Including the TIME variable into the model permits the examination of the change in crime rate over time. The results of this model are represented in the following table:

Unconditional Model of Crime with TIME Slope

Level-1 $Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{01} + u_1$

Y = CRIME (total crime)

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	222.680	11.000	20.248	<0.0001**
Time Slope γ_{01}	-2.08	0.123	-16.874	<0.0001**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	43.843	1922.168	2237.932	<0.0001**
Time Slope u_1	0.463	0.214	122.415	<0.0001**
R	30.480	929.036		

TABLE # 2

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

Table #2 provides the results of the unconditional model. The data indicate several findings. Turning to the top half of the table first, the data show that on average precincts in Queens had an average of 222.68 serious crimes reported at time=0 (December 1997). Furthermore, and again on average, precincts experienced a 2.08 reduction in serious crimes each month. This reduction is significant with a T-ratio of -16.874 with a p-value less than 0.0001. The negative coefficient of the time slope confirms what many Queens' residents observed: a reduction in crime during this period. More importantly, the large significance of this effect questions the validity of assertions claiming the crime reduction in Queens was simply a statistical regression to the mean from previously high figures.

The bottom half of Table #2 also provides interesting findings. First, the significant value of the variation of the intercept (X-square = 2237.932; p-value 0.000) indicates that the starting point of the level of serious crime in December 1997, when time = 0, was significantly different between the 16 precincts under observation. This comes as no surprise because it is intuitive that different precincts would likely be different in the overall level of crime. The statistics simply confirm that precincts differ with respect to the overall level of serious crime occurrences during the period in question. The significant value of the variation of the Time Slope (X-square = 122.415; p-value 0.000) indicates that the decrease in crime observed across precincts was not uniform. Precincts, therefore, experienced different rates of crime decreases; presumably some had rapid declines, while others had a less dramatic reduction, over the period under observation.

It is important for this analysis to understand the impact of demographic variables on the rate of crime. As stated above, there are forces at work within the population that are thought to have an impact on crime. Population is an obvious determinant, in that it is likely there will be more crime where there are more people, all other things being equal. This is precisely why population data will be used as a control to mitigate the effect it would have on the incidence of serious crime, and also drug arrests. Also, several demographic variables are presumed to impact on the rate of crime much in the same way population does. Essentially, the variables in question are socioeconomic ones and they are the impact of poverty (POVERTY), percentage of persons on public assistance (PUBASST), median income (MEDINC), percentage unemployed men between the ages 18 and 24 (UNEMPMEN), and percentage of persons not high school graduates (NONHSGRAD). There are also several community level variables of interest: percentage of minorities in the precinct (MINOR), the percentage in change of racial make-up of the community since the last census (CDCHANGE), and of course the population (POPULATE), and population density of a precinct (POPDENS).

The nature and structure of these data make them ideal for use in a multilevel design. As described earlier, the socioeconomic and demographic data describing precinct characteristics from the 2000 census will be used as Level-2 data, and can be modeled on the repeated measures design at Level-1 to see the influence these data hold over the rate of crime. Exploratory Analysis in HLM estimates level-2 coefficients and their standard errors obtained by regressing EB residuals on level-2 predictors selected for possible inclusion in subsequent HLM runs. Initially, the dependent variable will be

the number of report crimes recorded each month, absent the controls for population.

The Level-1 model is as follows:

$$Y_{ij} = \beta_{0j} + r_{ij}$$

Where Y_{ij} is the number of crimes in the average Queens precinct, β_{0j} is the fixed effect, and is the expected level of crime in each precinct with just one level-2 parameter, the y-intercept β_{0j} , without the influence of any predictor variables. The value of r_{ij} , is the level-1 random effect.

At Level-2, or precinct level, data from the various socioeconomic and demographic variables can be included into the model to determine the impact on crime rate. For these purposes the Level-2 model will be as follows:

$$\beta_0 = \gamma_{00} + u_0$$

In this model γ_{00} is the grand mean of crime rate in the average precinct in Queens. The statistical package HLM permits exploratory analyses of Level-2 data structured in this format to determine if they have an impact of the dependent variable, which in this case is the number of reported serious crimes. The socioeconomic and demographic variables were entered into the Level-2 exploratory analysis to determine their contribution on the y-intercept, or mean crime in the average precinct. The chart below lists the statistics obtained from this analysis:

Level – 2 Predictor Variables Related to Crime

DEPENDENT VARIABLE IS CRIME100 (total crime per 100,000 residents)

Potential Predictor Variable	Coefficient	Standard Error	t-value
POPULATE	0.002	0.000	6.499**
POPDENS	0.002	0.001	1.151
PUBASST	772.068	413.702	-1.866
POVERTY	-486.906	488.262	-0.997
UNEMP MEN	-1639.347	802.111	-2.044*
MEDINC	0.002	0.003	0.575
NONHSGRAD	205.116	363.641	0.564
MINORITY	94.291	115.277	0.818
CDCHANGE	264.217	157.498	1.678

Table # 3

**significant at the $p < 0.01$ level

*significant at the $p < 0.05$ level

The statistics in Table # 3 indicate that two level-2 variables from the exploratory analysis have a significant relationship with the number of report crimes per precinct. As predicted, population is strongly related to number of reported crimes, with a $t=6.499$, $p<0.01$. Because of such a strong relationship between population and crime it becomes very important to control for population when performing future analyses. Likewise, the number of unemployed men ages 18-24 also appears to be related to crime, but in the opposite direction of what would have been predicted. According to this analysis the number of reported crimes and the number of unemployed men age 18-24 are negatively related. As the number of unemployed men age 18-24 increases the number of reported crimes increase. This finding seems counterintuitive and requires greater exploration and discussion.

Since the influence of population on number of reported crimes is large and significant, the effect of population must be mitigated. A better measure of crime, therefore, would be crime rate. The crime rate can be determined by using the population data and obtaining a rate of crime per 100,000 residents. With this new dependent variable in mind, rate of crime per 100,000, it becomes useful again to re-run the exploratory analysis using crime rate, and not simply total reported crime to determine the impact of Level-2 socioeconomic and demographic variables.

The below table summarizes the results of this analysis with crime rate as the dependent variable:

Level – 2 Predictor Variables Related to Crime Rate per 100,000 Residents

DEPENDENT VARIABLE IS CRIME100 (total crime per 100,000 residents)

Variable	Coefficient	Standard Error	t-value
POPDENS	0.000	0.001	0.198
PUBASST	117.001	210.377	0.556
POVERTY	89.824	231.227	0.388
UNEMP	373.477	408.461	0.914
MEDINC	-0.001	0.002	-0.664
NONHSGRAD	124.433	165.886	0.750
MINORITY	63.851	51.535	1.239
CDCHANGE	-52.004	78.182	0.665

Table # 4

The data provided above in Table 4 indicate that none of the socioeconomic or demographic variables are significantly related to crime rate. Interestingly, the significant contribution of UNEMPMEN found when the analysis modeled reported number of serious crime disappeared when the influence of population is controlled for. Going forward, therefore, it will be important to use crime rate and not reported number of crimes when evaluating the data. Additionally, because of the impact of population on crime, the numbers of controlled substance and marijuana arrests will also be controlled for by the population of the precinct.

Based upon the data listed above it is not necessary to include any of these Level-2 predictor variables into a model describing the crime rate. The non-significant values obtained reveal that they do not have a contribution to the rate of crime in the average Queens precinct during the time period in question.

The next step in the analysis is to examine the change of the rate of drug enforcement. Similar to the above analysis, holding constant for the effect of population, the rate of controlled substance and marijuana arrests can be explored. Using the same model used to explore the change in crime rate over time, the following equations can be developed:

$$\text{Level-1} \quad Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{01} + u_1$$

In this model Y will be the rate of controlled substance arrests (CS100) and the rate of marijuana arrests (MARIJ100), and will be substituted as the dependent variable.

This permits the analysis of the change in drug enforcement rate over the course of the study period represented by the TIME variable, which as indicated above, is simply an numerical increase by one each month under observation. Also, similar to the examination of crime rate and demographics, the demographic variables can be entered into an exploratory analysis at Level-2 to determine if any of those variables are related to the rate of drug arrests. The following tables illustrate the results of these models:

Unconditional Model of Controlled Substance Arrest Rate with TIME Slope

Level-1 $Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{01} + u_1$

Y = CS100 (controlled substance arrest per 100,000 residents)

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	31.463	9.207	3.417	0.004**
Time Slope γ_{01}	-0.065	0.039	-1.688	0.112
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	36.795	1353.884	8451.813	<0.0001**
Time Slope u_1	0.135	0.018	64.491	<0.0001**
R	13.131	172.413		

TABLE # 5

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

According to the statistics presented above in table 5, there does not appear to be a significant change in the rate of controlled substance arrests during the study period. The value of the time slope variable (γ_{01}) is -0.065, with a t-ratio of -.1688, which is non-significant. This indicates that over the course of the six year period in Queens, with the deployment of two Narcotics Initiatives designed to aggressively target drug activity that the rate of controlled substance arrests did not change significantly.

Looking at the bottom panel of table 5, it can also be said that precincts in Queens had both different beginning levels of controlled substance arrest rate, and different rates of change of this rate over the study period. Both “u” values appearing in table 5 are significant indicating that there is a substantial range of variation between precincts in their controlled substance arrest rate. The magnitude of this range can be calculated to determine the plausible range of values for those precinct means. It would be expected that the precinct mean arrest rate for controlled substances would fall within the range given by the following:

$$\gamma_{00} \pm 1.96 (\text{var } u_0)^{1/2}$$

Substituting the values from table 5 into the above equation yields a range of average arrest rate for controlled substances in Queens’ precincts from a low of -40.66 to a high of 103.58 arrest rate per month, which is a significant difference. Similarly, the rate of change in arrest rate is calculated to fall within the range of -.785 to 0.655. This indicates that a precincts change in the rate of controlled substance arrest rate could have decrease, increased, or even remained at zero. This too is a significant difference between precincts.

In summary, table 5 tells us that there was a non-significant change in controlled substance arrest rate in the 16 Queens' precincts between 1995 and 2000. The mean controlled substance arrest rate was 31.5 per month, just about one per day. Furthermore, the rate of arrest for controlled substance had considerable and significant variability between precincts, showing both different average starting values, and different rates of change over time, including decrease, increase, and zero rate of change.

The same analysis can be performed for the rate of marijuana arrest. The results of which appear in the following table.

Unconditional Model of Marijuana Arrest Rate with TIME Slope

Level-1 $Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{01} + u_1$

Y = MARIJ100 (marijuana arrest per 100,000 residents)

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	23.348	6.163	3.788	0.002**
Time Slope γ_{01}	0.522	0.142	3.683	0.003**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	24.592	604.787	3107.751	<0.0001**
Time Slope u_1	0.561	0.315	714.477	<0.0001**
R	14.495	210.099		

TABLE # 6

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

According to table 6, marijuana arrest rate increased significantly during the study period. The value of γ_{01} from the table is calculated as 0.522, with a t-ratio = 3.683, which is significant at $p=0.003$. This indicates that on average arrest rate increased by 0.522 in Queens' precincts each month. Also, at time=0, when the first Initiative began, the average arrest rate for marijuana in Queens was 23.35 per month.

Looking at the bottom half of table 6, and like the statistics obtained for controlled substance arrest rate, the experiences of Queens' precincts are very different. The random effects reported in table 6 indicate that the average starting point for marijuana arrest rate for Queens' precincts is significantly different, and the rate of change experiences over the study period between precincts is significantly different as well. The plausible values for these rates range from -24.85 to 71.55 for marijuana arrest rate among precincts, and a range from -.039 to 1.083 for the rate of marijuana arrest rate change each month between Queens' precincts during the study period. As table 6 indicates, these values are significant and show a large range of average arrest rate, and change in that rate, between precincts. In summary, marijuana arrest rate increased significantly in Queens during the study period. There was also significant variability between precincts in their average arrest rate, and change in this rate over the study period.

As in the case of crime rate, it is important to explore the arrest rates of controlled substances and marijuana within the context of the demographic variables used in this study. This permits, before the exploration of relationships between arrest and crime, the influence of precinct level variables that might impact the rates of drug arrest. Again, as

in tables 3 and 4 above, the arrest rate – time models can be used to “explore” the influence of these demographic variables to see if they need to be entered into successive models involving arrest rate.

Level – 2 Predictor Variables Related to Controlled Substance Arrest Rate per 100,000 Residents

Y = CS100 (controlled substance arrests per 100,000 residents)

Variable	Coefficient	Standard Error	t-value
POPDENS	0.000	0.001	0.135
PUBASST	381.282	153.107	2.490*
POVERTY	347.026	178.350	1.946
UNEMP	912.845	269.604	3.386**
MEDINC	-0.002	0.001	-1.704
NONHSGRAD	226.132	133.234	1.697
MINORITY	82.233	41.481	1.982
CDCHANGE	-142.466	57.143	-2.493*

Table # 7

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

From the statistics listed in Table # 7 obtained from the exploratory analysis of level-2 predictor variables and the rate of controlled substance arrests, it appears there is a relationship between several demographic variables. Table # 7 shows that the percentage of persons on public assistance (PUBASST), the percentage of unemployed men between the ages of 18 and 24 (UNEMPMEN), and the change in the community district make-up (CDCHANGE) all have t-values greater than, and potential related to the rate of controlled substance arrests. In this context these variables must be modeled on controlled substance arrest rate to better determine their influence. To explore this relationship the following model is used:

$$\text{Level-1} \quad Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{PUBASST}) + \gamma_{02}(\text{UNEMPMEN}) + \gamma_{03}(\text{CDCHANGE}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

In this model the demographic variables PUBASST, UNEMPMEN, and CDCHANGE are entered at level-2 and allowed to influence the average rate of controlled substance arrests. Significant values for these statistics would demonstrate that these demographic variables influence arrest rate thus requiring greater examination of police practices. The below table shows the results of this analysis:

Model of Controlled Substance Arrest Rate and Selected Demographic Variables

Level-1 $Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + \gamma_{01}(\text{PUBASST}) + \gamma_{02}(\text{UNEMP MEN}) + \gamma_{03}(\text{CDCHANGE}) + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = CS100 (controlled substance arrest per 100,000 residents)

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	-50.378	37.882	-1.330	0.208
PUBASST γ_{01}	-222.864	341.059	-0.653	0.526
UNEMP MEN γ_{02}	1438.149	722.315	1.991	0.069
CDCHANGE γ_{03}	-3.987	58.873	-0.068	0.948
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	28.549	815.069	4368.500	0.000**
TIME u_1	0.135	0.018	64.49	0.000**
R	13.131	172.414		

TABLE # 8

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

The statistics listed above in Table # 8 indicate that none of the demographic variables in question are related to the overall rate of controlled substance arrests. According to the table, in the absence of unemployed men 18-24, and public assistance, and no change in community district make-up there would be an average of -50.378 controlled substance arrests per 100,000 residents. Clearly, there cannot be a negative number of arrests. The lowest this value could possibly go is zero. This is intuitive, as is the possibility of an intercept with such a low start value. The regression line with a low intercept indicates that these variables must exist at relatively high levels for controlled substance arrest rate to exist. While it is not probable that a community would be completely “drug arrest free” the results of this model indicate there would have to be a relatively high level of PUBASST, UNEMPMEN, and CDCHANGE for there to be any police activity directed toward controlled substance arrests. This discussion simply attempts to explain a seemingly impossible result, in that a negative arrest rate, to understand the model because the variables in the model do not bear any significance to the overall controlled substance arrest rate experience. It has already been shown that there is no meaningful change in the rate of controlled substance arrest during the study period. This model seeks to explain intervening demographic variables that might impact controlled substance arrest rate, but this is not the case. In any event, the statistics produced for all of these variables are non-significant, and for the purposes of this study need not be accounted for in future analysis of controlled substance arrest rate

Level – 2 Predictor Variables Related to Marijuana Arrest Rate per 100,000

Residents

Y = MARIJ100 (marijuana arrest rate per 100,000 residents)

Variable	Coefficient	Standard Error	t-value
POPDENS	0.000	0.001	0.198
PUBASST	117.001	210.377	0.556
POVERTY	89.824	231.227	0.388
UNEMP	373.477	408.461	0.914
MEDINC	-0.001	0.002	-0.664
NONHSGRAD	124.433	165.886	0.750
MINORITY	63.851	51.535	1.239
CDCHANGE	-52.004	78.182	0.665

Table # 9

Based on Table # 9 above, there are no demographic variables used in this study that appear to impact the rate of marijuana arrest.

The next, and successive, steps in the analysis would be to introduce factors believed to influence crime over time. For the purpose of this analysis the predictor variables of narcotics enforcement can be introduced into the crime rate model and allowed to illustrate the impact of narcotics enforcement on crime in precincts over time. This is accomplished by comparing the monthly arrest rate for marijuana and controlled substances with the monthly crime rate. Once again the initial point of observation and the experience over time can be examined. This relationship is represented by the following models:

$$\text{Level} - 1 \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

In the above model Y_{ij} represents the monthly number of serious crimes per 100,000 residents. The β_{0j} term will represent the monthly crime rate per 100,000 residents when there are 0 controlled substance arrests and 0 marijuana arrests. The β_{1j} represents the contribution of controlled substance enforcement to the change in monthly crime rate. The number of arrests has been controlled for by precinct population, with the result being rate of controlled substance arrests per 100,000 residents. The β_{2j} represents the contribution of marijuana enforcement to the change in crime rate. Once again, the number of marijuana arrests has been controlled for by precinct population, with the result being rate of arrest per 100,000 residents.

The statistics of most interest are the γ_{10} (mean difference in crimes with an increase in CS100), and γ_{20} (mean difference in crime with an increase in MARIJ100) at Level-2. The level-2 model is represented by the following equations:

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Significant values indicated by these statistics would indicate a significant contribution of these variables to the rate of crime. This model is useful in exploring the different categories of crime under observation. Initially, total crime rate can be used as the dependent variable. Successive runs of this model can then be used expanding the analysis to include other crime categories. After total crime, violent crime (murder, rape, robbery and assault) can be used as the dependent variable. Continuing with property crime (burglary, larceny, grand larceny auto), and then onto the individual classifications of crime, permits a broader understanding of the relationship between the independent variables and different categories of dependent crime variables. Again, as in the model of total crime, crime rate will be used for the crime categories. The numerical count of crime will be controlled for by total crimes per 100,000 persons residing in the precinct. These rates were then inserted into the above equations. The below tables represent the statistics obtained from these models.

Model of Total Crime Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = CRIME100 (Total Crime Rate)

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	243.29	18.73	12.99	0.000**
CS100 γ_{10}	1.044	0.311	3.356	0.005**
MARIJ00 γ_{20}	-1.922	0.292	-6.576	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	73.270	5368.452	285.45	0.000**
CS100 u_1	1.04	1.08	159.01	0.000**
MARIJ100 u_2	1.00	1.00	249.04	0.000**
R	45.17	2040.14		

TABLE # 10

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Violent Crime Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Violent Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	65.943	9.743	6.678	0.000**
CS100 γ_{10}	0.085	0.065	1.303	0.212
MARIJ00 γ_{20}	-3.317	0.028	-11.212	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	38.735	1500.422	895.943	0.000**
CS100 u_1	0.195	0.038	55.801	0.000**
MARIJ100 u_2	0.066	0.004	25.462	0.044*
R	13.450	180.890		

TABLE # 11

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Property Crime Rate and Controlled Substance & Marijuana Arrest Rate

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

$\beta_2 = \gamma_{20} + u_2$

Y = Property Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	177.726	11.696	15.195	0.000**
CS100 γ_{10}	0.918	0.259	3.546	0.003**
MARIJ00 γ_{20}	-1.665	0.297	-5.598	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	44.877	2013.947	151.860	0.000**
CS100 u_1	0.866	0.750	133.856	0.000**
MARIJ100 u_2	1.049	1.099	306.883	0.000**
R	41.349	1709.749		

TABLE # 12

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Murder Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level} - 1: Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level} - 2: \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Murder Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	0.443	0.090	4.950	0.000**
CS100 γ_{10}	0.009	0.003	3.208	0.006**
MARIJ00 γ_{20}	-0.003	0.002	-1.571	0.137
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	0.311	0.096	47.856	0.000**
CS100 u_1	0.008	0.00007	54.521	0.000**
MARIJ100 u_2	0.005	0.00003	18.615	0.231
R	0.831	0.691		

TABLE # 13

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Rape Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Rape Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	1.480	0.235	6.300	0.000**
CS100 γ_{10}	0.002	0.004	0.594	0.561
MARIJ00 γ_{20}	-0.002	0.003	-0.807	0.432
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	0.836	0.699	65.144	0.000**
CS100 u_1	0.004	0.00001	8.065	>0.50
MARIJ100 u_2	0.006	0.00004	21.743	0.115
R	1.390	1.933		

TABLE # 14

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Robbery Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Robbery Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	42.488	6.662	6.378	0.000**
CS100 γ_{10}	0.101	0.043	2.331	0.034*
MARIJ00 γ_{20}	-0.286	0.023	-12.327	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	26.481	701.264	741.322	0.000**
CS100 u_1	0.130	0.017	74.091	0.000**
MARIJ100 u_2	0.058	0.003	41.587	0.000**
R	9.755	95.167		

TABLE # 15

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Assault Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level} - 1: Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level} - 2: \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Assault Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	20.707	3.263	6.345	0.000**
CS100 γ_{10}	0.003	0.30	0.113	0.912
MARIJ00 γ_{20}	-0.018	0.011	-1.645	0.120
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	12.824	164.455	375.907	0.000**
CS100 u_1	0.079	0.006	35.349	0.002**
MARIJ100 u_2	0.008	0.00007	15.155	0.441
R	7.390	54.613		

TABLE # 16

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Burglary Rate and Controlled Substance & Marijuana Arrest Rate

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

$\beta_2 = \gamma_{20} + u_2$

Y = Burglary Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	56.542	3.048	18.552	0.000**
CS100 γ_{10}	0.278	0.063	4.448	0.000**
MARIJ00 γ_{20}	-0.531	0.095	-5.566	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	10.785	116.308	55.265	0.000**
CS100 u_1	0.168	0.028	47.569	0.000**
MARIJ100 u_2	0.293	0.086	97.932	0.000**
R	22.453	504.158		

TABLE # 17

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Grand Larceny Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Grand Larceny Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	46.981	7.211	6.515	0.000**
CS100 γ_{10}	0.033	0.029	1.132	0.276..
MARIJ00 γ_{20}	-0.205	0.047	-4.376	0.001**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	28.586	817.143	441.624	0.000**
CS100 u_1	0.064	0.004	27.672	0.024*
MARIJ100 u_2	0.141	0.20	90.560	0.000**
R	12.611	159.028		

TABLE # 18

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Grand Larceny Auto Rate and Controlled Substance & Marijuana Arrest Rate

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CS100}) + \beta_{2j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

Y = Grand Larceny Auto Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	72.695	6.776	10.229	0.000**
CS100 γ_{10}	0.671	0.177	3.791	0.002**
MARIJ00 γ_{20}	-0.954	0.212	-4.490	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	26.385	696.194	237.988	0.000**
CS100 u_1	0.643	0.413	211.191	0.000**
MARIJ100 u_2	0.802	0.644	626.459	0.000**
R	20.893	436.509		

TABLE # 19

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Consolidated Table of Controlled Substance Arrest Rate (CS100) γ_{10}

γ_{10} = mean difference in crimes with an increase in CS100

<u>Crime Category</u>	<u>Coefficient γ_{10}</u>	<u>T-ratio</u>	<u>p-value</u>
Total Crime	1.044	3.356	0.005**
Violent Crime	0.085	1.303	0.212
Property Crime	0.918	3.546	0.003**
Murder	0.009	3.208	0.006**
Rape	0.002	0.594	0.561
Robbery	0.101	2.331	0.034*
Assault	0.003	0.113	0.912
Burglary	0.278	4.448	0.000**
Grand Larceny	0.033	1.132	0.276
Grand Larceny Auto	0.671	3.791	0.002**

TABLE # 20

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

The results from Table 20 present interesting findings. According to the values of γ_{10} , there appears to be a positive association between crime rate and arrest rate for controlled substances. This observation holds true for Total Crime ($\gamma_{10} = 1.044$, $t=3.356$, at $p = 0.005$), for Property Crime ($\gamma_{10} = 0.918$, $t=3.546$, at $p=0.003$), for Murder ($\gamma_{10} = 0.009$, $t=3.208$, at $p=0.006$), for Robbery ($\gamma_{10} = 0.101$, $t=2.331$, at $p=0.034$), for Burglary ($\gamma_{10} = 0.278$, $t=4.448$, at $p<0.001$), and for Grand Larceny Auto ($\gamma_{10} = 0.671$, $t=3.791$, at $p=0.002$). For these crimes and crime categories there is a significant increase in crime rate with an increase in controlled substance arrest rate, across precincts in Queens over time. This finding is contrary to several of the hypothesis. If enforcement can be considered a means to reduce serious crime, then there should have been a significant and *negative* association between crime and arrest. These data indicate that when there is more crime, there are more arrests made for controlled substances. The more controlled substance arrests in a given areas, the more likely there will be a higher rate of crime. Similarly, the model shows that there is a non-significant relationship between controlled substance arrest rate and violent crime, rape, assault, and grand larceny.

Continuing with the model listed above the mean difference in crime rate related to marijuana arrests rate can also be determined. The following is a list of coefficients indicating the mean difference in crime rate with an increase in marijuana arrest rate:

Consolidated Table of Marijuana Arrest Rate (MARIJ100) γ_{20}

γ_{20} = mean difference in crimes with an increase in MARIJ100

<u>Crime Category</u>	<u>Coefficient γ_{20}</u>	<u>T-ratio</u>	<u>p-value</u>
Total Crime	-1.922	-6.576	0.000*
Violent Crime	-0.317	-11.212	0.000*
Property Crime	-1.665	-5.598	0.000*
Murder	-0.003	-1.571	0.137
Rape	-0.002	-0.807	0.432
Robbery	-0.286	-12.327	0.000*
Assault	-0.018	-1.645	0.120
Burglary	-0.531	-5.566	0.000*
Grand Larceny	-0.205	-4.376	0.001*
Grand Larceny Auto	-0.954	-4.490	0.000*

TABLE # 21

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

Based upon the statistics presented in TABLE # 21, there is a negative and significant relationship between the crime rate and marijuana arrest rate for total crime ($\gamma_{20} = -1.922$, $t = -6.576$, at $p < 0.001$) for violent crime ($\gamma_{20} = -0.317$, $t = -11.212$, at $p < 0.001$) for property crime ($\gamma_{20} = -1.665$, $t = -5.598$, at $p < 0.001$), Robbery ($\gamma_{20} = -0.286$, $t = -12.327$, at $p < 0.001$), Burglary ($\gamma_{20} = -0.531$, $t = -5.566$, at $p < 0.001$) Grand Larceny ($\gamma_{20} = -0.205$, $t = -4.376$, at $p = 0.001$), Grand Larceny Auto ($\gamma_{20} = -0.954$, $t = -4.490$, at $p < 0.001$). These models showed a non-significant relationship for only the crimes of rape, and assault. Briefly stated, as total crime increased, arrest rates for marijuana offenses decreased. These data indicate that for Robbery, for example (the strongest relationship observed), for every one unit increase in the marijuana arrest there is a 0.286 decrease in the rate of crime per 100,000 residents in the population. This is useful for understanding the dynamic between these two variables: as marijuana arrest rate increases there will be a significant decrease in crime rate in the average precinct in Queens.

The analysis detailed above examines arrest rate as it increases from zero. The interpretation of γ_{10} , and γ_{20} in these models is the contribution of controlled substance and marijuana arrest rate to the change in various crime categories from a zero starting point. Essentially, the question is asked – what would crime rate be in the absence of these arrests? In an analytical setting this question is appropriate, but assuming there are zero arrests for arguments sake does not comport with real experiences of police enforcement. In fact it is infrequent for there to be zero controlled substance or marijuana arrests in a typical Queens' precinct during any month in the study period. To make the analysis more meaningful, therefore, it becomes useful to perform the analysis

again centering the enforcement variables before entering them into the model predicting crime outcomes. By centering around the group mean we obtain the unadjusted group mean for drug arrests within precincts. The original predictors are centered around their corresponding level-2 unit (precinct) means by replacing the original values X_{ij} with $X_{ij} - \text{mean}X_{ij}$, where $\text{mean}X_{ij}$ represents the group mean of all level-1 observations nested within the j -th level-2 unit. The intercept β_{0j} is now the unadjusted mean for group j (Bryk and Raudenbush, 2001). Here the γ_{10} and γ_{20} terms are transformed from an arbitrary and unrealistic term into a more meaningful predictor. The contribution of arrest rate to the change in crime rate now becomes the examination of what happens to crime rate if a precinct increases/decreases enforcement activity above or below the average level of enforcement in a given month. Because arrests for controlled substance and marijuana are almost always present in any month it is useful to explore what happens to the rate of crime if the police alter their efforts from an average level of enforcement. The models for the various crime categories were recomputed using drug arrest rate centered around the group mean. The tables below show the results of these models.

Group Mean Controlled Substance Arrest Rate (CS100) γ_{10}

γ_{10} = mean difference in crimes with an increase in CS100

<u>Crime Category</u>	<u>Coefficient γ_{10}</u>	<u>T-ratio</u>	<u>p-value</u>
Total Crime	1.028	2.957	0.010*
Violent Crime	0.075	1.175	0.259
Property Crime	0.945	3.297	0.003**
Murder	0.007	1.601	0.130
Rape	-0.002	-0.643	0.529
Robbery	0.099	2.200	0.044*
Assault	-0.021	-0.663	0.517
Burglary	0.256	3.049	0.009**
Grand Larceny	0.022	0.627	0.540
Grand Larceny Auto	0.687	3.764	0.002**

TABLE # 22

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

Group Mean Marijuana Arrest Rate (MARIJ100) γ_{20}

γ_{10} = mean difference in crimes with an increase in CS100

<u>Crime Category</u>	<u>Coefficient γ_{20}</u>	<u>T-ratio</u>	<u>p-value</u>
Total Crime	-1.901	-6.500	0.000**
Violent Crime	-0.318	-11.076	0.000**
Property Crime	-1.683	-6.021	0.000**
Murder	-0.004	-2.045	0.058
Rape	-0.004	-1.381	0.188
Robbery	-0.288	-11.749	0.000**
Assault	-0.021	-1.923	0.073
Burglary	-0.533	2.792	0.000**
Grand Larceny	-0.210	-4.533	0.000**
Grand Larceny Auto	-0.968	-4.734	0.000**

TABLE # 23

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

According to the statistics provided in tables 22, and 23, centering the predictor variables around the group mean did little in the way of changing the inferences that could be drawn from the analysis. With the exception of the rate of murder, all categories of crime, in relation to controlled substance and marijuana arrest rate, yielded similar results. Comparing the two analyses for centered and uncentered predictors, similar levels of significance, in the same direction, were obtained. For controlled substance arrest rate, the only change was the murder rate. Using uncentered predictors, controlled substance arrest rate was significantly and positively related to murder rate. That association changed, however, when controlled substance arrest rate was centered.

Furthermore, examination of the coefficients listed in tables 20, 21, 22, and 23 shows only modest changes. For example, the coefficient for total crime when related to uncentered controlled substance arrest rate was 1.044. This statistic indicates that for every 1 unit increase in controlled substance arrest rate there is a 1.044 increase in total crime rate. This finding is also statistically significant at $p=0.005$. When the controlled substance arrest rate is centered around its group mean, and re-modeled around total crime rate, the coefficient changes to 1.028. Now the interpretation is that in any given month if a precinct increases its controlled substance arrest rate by 1 more than the average arrest rate the precinct will see a 1.028 increase in the rate of serious crime. This finding, too, is significant at the $p=0.01$ level. So, while the interpretive value of the predictor variables changes because of centering the variables around their group mean, the inferential value of the contribution of controlled substance and marijuana arrest rate to crime rate does not change because of the centering. This information will become useful as the discussion of the crime/enforcement continues.

The next model under consideration explores the impact of the NYPD's deployment of Narcotics Initiatives. As discussed previously, the Initiatives were a geographically based and systematic build up of narcotics enforcement in two areas of Queens covering a total of six precincts. (South Queens: 103, 105, 113; North Queens: 110, 114, 115). The SEQI began in November 1997 and the QNNI began in February 1999. Using HLM it is possible to examine the crime trends in Queens with the advent of these operations. By marking the start of each Initiative, and comparing crime rates before and after the commencement of the Initiatives, we can see if precincts in Queens had different crime experiences once the Initiatives were deployed. This examination does not look at any specific functions of the Narcotics Initiatives' operations, simply whether or not crime rate changed after the Initiatives were deployed. The level-1 model can be represented by the following equation:

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

For this model Y_{ij} is the rate of serious crime per 100,000 residents, β_{0j} is the y-intercept, β_{1j} is the time slope represented in months, β_{2j} is the influence of the presence of the first Initiative deployed in November 1997 {0,1}, and β_{3j} is the influence of the presence of the second Initiative deployed in February 1999 {0,1}. The level-2 models are as follows:

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

The level-2 model allows for the examination of both the impact of the presence of Initiatives, the “initiative effect,” and the displacement of crime to other precincts because of the presence of an Initiative in a neighboring precinct, the “displacement effect.” The Time variable was only explored at Level-1 because the unconditional model incorporating the importance of time was discussed above. Because of the hierarchical nature of the data it is possible to explore these relationships using the equations above. When dummy coding is used in the level-1 equation a “1” indicates that the Initiative is underway during the month, or observation. At level-2 a “1” indicates that the particular precinct has been selected as an Initiative command. Conversely, a “0” is used in all other instances at both level-1 and level-2, translating into periods of time under observation when the Initiatives were not in effect, and a non-Initiative precinct, respectively. Through substitution of the equations it becomes possible to determine the initiative effect. It is not as simple, however; to ask if crime rate changed during these periods, it is necessary to know if crime rate changed in Initiative vs. non-Initiative precincts, and in which direction did it change. The impact of the Initiatives can be examined by looking at the values of γ_{21} , and γ_{31} . When the PROG1 and PROG2 variables are coded “1” at level-1 it signifies the time period when the Initiatives are in effect. The β_2 term at level-1 will only have a value, therefore, when PROG1 is coded “1,” or during the time of the first Initiative (after November 1997). The β_2 , however, is a function of a higher level of data, namely, whether or not the precinct is an Initiative precinct or not. If the precinct is a SEQI precinct INIT1 will be coded with a “1” at level-2, and if it is a QNNI precinct, INIT2 will be coded with a “1” at level-2. Through substitution, γ_{21} , and γ_{31} become meaningful. In an SEQI precinct during the time SEQI

was in operation PROG1 will have a value of “1” and INIT1 will have a value of “1” at level-1 and level-2 respectively. Non-SEQI precincts during the time SEQI is operational will have PROG1 coded as “1” at level-1 and have INIT1 coded as a “0” at level-2. When PROG1 has a value of 1 at level-1, and INIT1 as a value of 1 at level-2, the γ_{21} term signifies the change in crime in SEQI precincts when the SEQI was underway. Similarly, when PROG2 has a value of “1” at level-1 and INIT2 has a value of “1” at level-2 the γ_{31} term signifies the change in crime in QNNI precincts when QNNI was underway.

The displacement effect can be described as a shift in crime from one precinct to another because of the presence of the Initiatives. Presumably, if narcotics enforcement intensifies in a particular precinct crime might shift to another precinct to avoid the pressure being exerted in the former location. If the Initiatives were to cause such a displacement in crime non-Initiative precincts would experience a rise in crime when the Initiatives were being deployed in other precincts. Also, if there was an impact from competition, or diffusion of treatment effects, there would be a change in crime rate that was consistent with the experiences of the Initiative precincts. For example, if officers assigned to the Narcotics Borough Queens observed the build up and attention given to select precincts because of the Initiatives, the competitive threat to internal validity would be borne out. The officers in non-Initiative precincts might work harder or imitate the operations of the officers assigned to the Initiative precincts. This scenario would manifest itself by an identical, or similar, change in crime rate in all commands regardless

of their status as Initiative precincts or not. Both of these possibilities can be explored with HLM through the models above.

In the above models β_0 is the average rate of crime rate when all other variables in the model are coded “0” at level-1 (before the Initiatives started). When the Initiative began the β_0 term includes the contribution of β_1 and β_2 , and becomes a function of γ_{00} , γ_{01} , and γ_{02} . When INIT1 and INIT2 take on a value of “1” at level-2 then γ_{01} , and γ_{02} indicate the influence the Initiative precincts have on the change in the grand mean of crime. If γ_{01} , and γ_{02} have significant values then it can be inferred that crime rate changed in non-Initiative precincts after the Initiatives were deployed. Calculation of these models provides the following results:

Initiative Effects Model

Level-1 $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$

$\beta_1 = \gamma_{10} + u_1$

$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$

$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$

Y = CRIME100

<u>Fixed Effect</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-ratio</u>	<u>p-value</u>
γ_{00}	190.03	11.35	16.74	0.000**
γ_{01}	26.91	23.69	1.14	0.277
γ_{02}	-31.20	18.03	-1.73	0.107
γ_{10}	-2.21	0.19	-11.82	0.000**
Displacement Effect SEQI γ_{20}	-5.09	5.89	-0.864	0.400
Initiative Effect SEQI γ_{21}	-28.06	10.40	-2.70	0.018*
Displacement Effect QNNI γ_{30}	18.70	5.82	3.21	0.007**
Initiative Effect QNNI γ_{31}	2.55	8.03	0.32	0.755
<u>Random Effect</u>	<u>Standard Deviation</u>	<u>Variance Component</u>	<u>Chi-Square</u>	<u>p-value</u>
u_0	35.754	1278.359	94.77	0.000
u_1	0.614	0.377	44.65	0.000
u_2	17.318	299.909	30.518	0.007
u_3	18.675	348.742	45.554	0.000
R	29.185	851.793		

TABLE # 24

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

According to the statistics presented in table 24 there appears to be a displacement effect for the QNNI deployment, but not for the SEQI. The value of γ_{30} , QNNI displacement is significant with a coefficient of 18.7, $t=3.21$, at $p=0.007$. The γ_{20} , according to table 24 is non-significant. These statistics demonstrate that when the SEQI was deployed by the NYPD there was no change in crime rate in the other non-Initiative precincts, but when the QNNI was deployed there was an average and significant increase of 18.7 in the crime rate in the non-Initiatives precincts.

Table 24 also presents conflicting statistics with regards to the implementation of the SEQI and QNNI by variables INIT1 and INIT2, and the values of γ_{21} and γ_{31} respectively. As stated previously, these values represent the contribution to the change in the rate of crime that coincides with the deployment of the Narcotics Initiatives by the NYPD. The coefficient for γ_{21} is -28.06, which indicates that each month after the Initiatives were deployed there was an approximate decrease of 28 serious crimes per month in the precincts benefiting from the deployment of the Queens South Initiative. This statistic has a t-ratio of -2.70, which is significant at the $p = 0.018$ level, and in the predicted direction. Therefore, the crime rate in the Queens South precincts benefiting from the Narcotics Initiatives decreased by 28 crimes per month on average after the Initiative started.

According to table 24, $\gamma_{31} = 2.55$, and has a t-ratio of 0.32, which is not significant ($p = 0.755$). This indicates that when the Initiative was deployed in Queens North, crime rate in precincts benefiting from this Initiative increased, but in a non-significant rate.

Another appropriate form of analysis to determine the impact of the Narcotics Initiatives is to explore the arrest rates for controlled substances and marijuana within the context of their deployment. Using the identical models listed above and substituting controlled substance arrest rate (CS100), and marijuana arrest rate (MARIJ100) as the dependent variables, the impact of the Narcotics Initiatives can be better understood. The models would, therefore, take on the following form:

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

In these cases Y will take the values of controlled substance and marijuana arrest rate. This will demonstrate the change in arrest rate, if any, for these two classes of offenses with the deployment of the Narcotics Initiatives, in the precincts benefiting from the deployment, as well as the other non-Initiative precincts. Again, the Time variable was only explored at Level-1 because the unconditional model incorporating the importance of time was discussed above. The following tables contain the results of these models:

Initiative Effect on the Rate of Controlled Substance Arrests

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

Y = CS100

<u>Fixed Effect</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-ratio</u>	<u>p-value</u>
γ_{00}	27.956	9.616	2.907	0.013*
γ_{01}	3.588	13.625	0.263	0.796
γ_{02}	13.425	14.547	0.923	0.373
γ_{10}	-0.052	0.063	-0.816	0.427
Displacement Effect SEQI γ_{20}	4.551	4.516	1.008	0.331
Initiative Effect SEQI γ_{21}	-5.854	3.931	-1.489	0.158
Displacement Effect QNNI γ_{30}	-5.304	4.315	-1.229	0.240
Initiative Effect QNNI γ_{31}	2.489	3.586	0.694	0.499
<u>Random Effect</u>	<u>Standard Deviation</u>	<u>Variance Component</u>	<u>Chi-Square</u>	<u>p-value</u>
u_0	34.606	1197.599	1470.888	0.000**
u_1	0.190	0.036	34.644	0.003**
u_2	16.968	287.911	159.187	0.000**
u_3	16.328	266.617	179.697	0.000**
R	11.430	130.638		

TABLE # 25

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

The statistics listed in table 25 above are surprising. The model examined the change in controlled substance arrest rate within the context of the deployment of the Narcotics Initiatives. The model is also useful in exploring whether or not there is a displacement effect of the Initiatives creating some change in the arrest rate in other non-Initiative precincts. According to the statistics listed above, there was no significant change in the rate of arrest over the course of the period under observation. Neither the SEQI deployed in November 1997, nor the QNNI deployed in February 1999 had a significant impact on the rate of arrests for controlled substances. Also, the deployment of these Initiatives did not spill over into other non-Initiative precincts and create a rivalry to produce more enforcement activity. Essentially, controlled substance arrest rate did not change over the study period and was not impacted by the deployment of the Initiatives.

These findings appear to be consistent with the general findings on controlled substance arrest rate over time during the study period. Data already provided in table 5 showed that there was a non-significant decrease in controlled substance arrest rate during the study period across precincts in Queens. That finding is not in conflict here that the Narcotics Initiatives did not influence arrest rate for controlled substances in Queens. Furthermore, there does not appear to be any effect on enforcement because of the Narcotics Initiatives in other non-Initiative precincts.

Initiative Effect on the Rate of Marijuana Arrests

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

Y = MARIJ100

<u>Fixed Effect</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-ratio</u>	<u>p-value</u>
γ_{00}	16.838	4.502	3.740	0.003**
γ_{01}	9.775	4.102	2.383	0.033*
γ_{02}	0.205	3.578	0.057	0.956
γ_{10}	0.297	0.088	3.371	0.005**
Displacement Effect SEQI γ_{20}	2.645	2.494	1.061	0.307
Initiative Effect SEQI γ_{21}	23.564	5.672	4.155	0.001**
Displacement Effect QNNI γ_{30}	1.967	2.894	0.680	0.508
Initiative Effect QNNI γ_{31}	13.014	6.683	1.947	0.071
<u>Random Effect</u>	<u>Standard Deviation</u>	<u>Variance Component</u>	<u>Chi-Square</u>	<u>p-value</u>
u_0	16.992	288.717	258.775	0.000**
u_1	0.290	0.084	41.176	0.000**
u_2	6.172	38.095	20.646	0.111
u_3	8.586	73.712	41.830	0.000**
R	29.185	851.793		

TABLE # 26

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

While the model examining controlled substance arrest rate over time did not show a significant change in arrests during the study period, that does not appear to be the case for marijuana arrests. Table 26 above shows that there was a significant increase in marijuana arrest rate during several important components of the study, but not in others. The statistics obtained from the marijuana arrest rate model shows a significant increase in marijuana arrest rate in Queens during the period of observation.

The γ_{11} in table 6 is show an increase of 0.522 marijuana arrest rate per month during the period in Queens, which is significant at $p=0.003$. That finding is confirmed in the table above where the time variable γ_{10} was computed as 0.297 increase in marijuana arrest rate per month, with a t-value of 3.371, which is significant at the $p=0.005$ level. This indicates that marijuana arrest rate increased significantly in Queens during the study period.

The results for the Narcotics Initiatives are mixed. It appears that the deployment of the SEQI produced positive results. Table 26 indicates that coinciding with the deployment of SEQI marijuana arrest rate, γ_{21} , increased by 23.546 per month. This finding is significant with a $t=4.155$, $p=0.001$. This means that in precinct benefiting from the deployment of the SEQI, during the times it was being deployed, the marijuana arrest rate increased by 23.546 in the average month. There also does not appear to be a displacement effect associated with the SEQI deployment. Table 26 above shows a γ_{20} of 2.645, with a t-value = 1.061, which is non-significant. This indicates that marijuana arrest rate remained stable in non-Initiative precincts during the time that SEQI was deployed.

The results for the QNNI experience are slightly different than SEQL. Table 26 indicates that there were no significant changes in marijuana arrest rate in QNNI precincts when QNNI was deployed. The γ_{31} shows a 13.014 average increase in arrest rate, which is non-significant. Furthermore, the deployment of QNNI did not create a change in marijuana arrest rate in other parts of Queens county. The γ_{30} , which would indicate any displacement to non-QNNI precincts, is a 1.967 average increase in arrest rate per month, which is also non-significant.

Nuisance Abatement

An important tactic employed by the Narcotics Initiatives was the dismantling of drug gangs and then the seizure and eradication of the locations involved in these activities. As discussed above, controlling locations not only involved placing police officers in positions to disrupt crime, but also physically controlling locations involved in the drug trade. The most common application of this tactic was the Nuisance Abatement (NA) program. Using HLM it is possible to model the impact of NA closures on crime. Furthermore, it is possible to determine the impact the deployment of the Narcotics Initiatives had on the frequency of NA closings, and therefore, determine indirectly if the tactic of eradicating drug-prone locations as part of the three prong strategy was an effective tool in reducing serious crime.

The first model to be discussed will be the rate of change, if any, of Nuisance Abatement closing over time. Presumably, if the Nuisance Abatement is a successful and important part of the NYPD's strategy against crime, then there will be a significant

increase in the level of Nuisance Abatement during the study period. This relationship can be explored using the following model:

$$\text{Level-1} \quad Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{01} + u_1$$

In this model Y represents the number of Nuisance Abatement closings in the average precinct in the average month, and the time variable represents the progression of time through the study period. This is the unconditional model of Nuisance Abatement without the influence of any predictor variables. It is expected that Nuisance Abatement closings will significantly increase over time. The results of this model are provided below:

Nuisance Abatement – Unconditional Model

Level-1 $Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{01} + u_1$

Y = Nuisance Abatement

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	0.673	0.134	5.012	<0.0001**
Time Slope γ_{01}	0.013	0.003	4.094	0.001**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	0.523	0.273	289.572	<0.0001**
Time Slope u_1	0.011	0.00012	60.404	<0.0001**

TABLE # 27

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

According to table 27 the incidence of NA increased over time during the study period. The coefficient γ_{00} , the grand mean of NA closings, is reported as 0.673, which indicates that at time zero, when the SEQI began, the mean NA closing in Queens' precincts was a little more than one every other month. Table 27 also reports that the frequency of these closing increased over time. The γ_{01} statistic, which represents the change in the number of NA closings over time, is positive and significant. The coefficient γ_{01} is 0.013, with a t-ratio = 4.094, which is significant at $p=0.001$. This indicates that the number of NA closings significantly increased in Queens' precincts by 0.013 per month, on average. Although small, with the average precinct needing more than 76 months to increase its NA closings by one each month, the increase is significant.

Looking at the bottom half of table 27 and statistics are reported that are consistent with other areas of this research. From the u_0 and u_1 values reported in table 27 we see that the starting values for precincts with their NA closings were significantly different between precincts, and the rate of change in these values were also significantly different. Using equations reported previously ($\gamma_{00} \pm 1.96(\text{var } u_0)^{1/2}$) to determine the plausible range of values for and it can be determined that the mean number of NA closings can range between -0.352 and 1.698 per month, and similarly, the rate of change of NA closings can range from -0.009 and 0.037 per month. This indicates a wide variation in the number of NA closings in Queens' precincts. In general, however, it can be concluded that the experience of Queens' precincts during the study period was one that witnessed an overall increase in the number of NA closings. This increase was significant. Also, there was wide variety between precincts in both the number of NA closings and the rate of change of these closings.

At this point in the statistical analysis it is also important to examine the level-2 variables to determine their relationship to the dependent variable. The HLM program includes an “exploratory analysis” feature for this purpose. In this instance all level-2 demographic variables were entered into the level-2 analysis to determine their relationship with Nuisance Abatement closings as it relates to total crime controlled for by the population. This step permits an understanding of what, if any, variables at a higher level of aggregation might influence the dependent variable, in this case NA closings, as these closing are being related to crime. The following chart presents the contribution of the level-2 demographic variables used in this study as an attempt to better understand the hierarchical dynamics of the data in question. An unconditional model using NA as the dependent variable is employed and all eight demographic variables entered as “exploratory” at level-2.

$$\text{Level - 1} \quad Y_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Level - 2} \quad \beta_0 = \gamma_{00} + u_0$$

Level – 2 Predictor Variables Related to Nuisance Abatement

NUISANCE ABATEMENT AS DEPENDENT VARIABLE

Level-2 Demographic Variable	Coefficient	Standard Error	t-value
POPDENS	0.000	0.000	2.201*
PUBASST	2.181	2.539	0.859
POVERTY	2.319	2.779	0.834
UNEMP	4.400	5.014	0.877
MEDINC	0.000	0.000	0.685
NONHSGRAD	4.049	1.767	2.291*
MINOR	1.922	0.422	4.554*
CDCHANGE	0.152	0.972	0.157

TABLE # 28

*Significant at the $p < 0.05$ level

According to table 28 the population density, the percentage of non-High School graduates, and the percentage of minority residents appear to have a contribution to NA closings at level-1. Because of the possible association between NA closings and the level-2 demographic variables, an added step must be conducted. These three related variables need to be included at level-2 to explore the model regarding NA in Queens' precincts during the study period. The following model explores this relationship:

$$\text{Level-1} \quad Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{POPDENS}) + \gamma_{02}(\text{NONHSGRAD}) + \gamma_{03}(\text{MINOR}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

In the model γ_{01} and γ_{02} will represent the relative contribution of population density, non-High School graduates, and minority residents respectively, to the average number of NA closings in the average Queens precinct during the study period. Significance of these statistics would indicate that they need to be accounted for when discussing the change of NA closings. The below table summarizes the results of this model:

POPDENS, MINORITY and NONHSGRAD Impact on NA

$$\text{Level-1 } Y_{ij} = \beta_0 + \beta_1(\text{TIME}) + r_{ij}$$

$$\text{Level-2 } \beta_0 = \gamma_{00} + \gamma_{01}(\text{POPDENS}) + \gamma_{02}(\text{NONHSGRAD}) + \gamma_{03}(\text{MINOR}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

Y = NA

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	-0.053	0.276	-0.192	0.851
POPDENS γ_{01}	0.000002	0.000004	0.486	0.635
NONHSGRAD γ_{02}	1.507	1.128	1.336	0.207
MINOR γ_{03}	0.411	0.339	1.213	0.249
γ_{10}	0.013	0.003	4.190	0.001**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept U_0	0.412	0.170	173.264	0.000**
TIME U_1	0.011	0.00012	60.226	0.000**
R	1.032	1.064		

Table #29

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

The results listed in table 29 indicate that none of the level-2 predictors, when entered into the model are significantly related to NA at level-1. This leaves only the TIME variable with a positive and significant relationship with NA closings in Queens precincts during the study period. This result is consistent with results from previous models and leads to the conclusion that the number of NA closings did in fact increase during the period in question and may be examined without the need to account for the selected level-2 demographic variables.

The next models in this discussion will be the relationship between NA closings and crime. Using the NA data and crime data collected monthly over the study period generates the following HLM models:

$$\text{Level - 1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{NA}) + r_{ij}$$

$$\text{Level - 2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

In this model, at level-1, Y_{ij} represents the rate of crime in the average precinct in Queens during the study period. To explore the relationship between crime and NA closings total crime, violent crime, property crime, murder, rape, robbery, felony assault, burglary, grand larceny, and grand larceny auto, all controlled for by the population, will be substituted as the dependent variable in successive models similar to the ones presented above. The application of this method within the above models yield the statistics presented in the following tables:

Model of Total Crime Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Total Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	228.588	12.035	18.994	0.000**
NA γ_{10}	-12.477	1.457	-8.563	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept U_0	47.590	2264.805	639.592	0.000**
NA U_1	1.723	2.967	11.659	>0.500
R	51.930	2696.776		

TABLE # 30

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Violent Crime Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Violent Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	59.931	7.389	8.111	0.000**
NA γ_{10}	-1.795	0.525	-3.420	0.004**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	29.482	869.159	2931.111	0.000**
NA u_1	1.375	1.891	23.542	0.073
R	14.880	221.409		

TABLE # 31

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Property Crime Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Property Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	169.155	8.784	19.257	0.000**
NA γ_{10}	-10.482	1.311	-7.995	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	34.572	1193.510	490.642	0.000**
NA u_1	1.940	3.765	13.836	>0.500
R	45.867	2103.749		

TABLE # 32

** significant at the p<0.01 level

* significant at the p<0.05 level

Model of Murder Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Murder Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	0.626	0.878	7.127	0.000**
NA γ_{10}	-0.050	0.026	-1.900	0.076
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	0.331	0.110	147.932	0.000**
NA u_1	0.038	0.002	14.212	>0.500
R	0.840	0.705		

TABLE # 33

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Rape Rate and Nuisance Abatement

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{NA}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

Y = Rape Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	1.579	0.259	6.087	0.000**
NA γ_{10}	-0.417	0.040	-1.053	0.310
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	1.019	1.039	410.318	0.000**
NA u_1	0.057	0.003	13.424	>0.500
R	1.400	1.951		

TABLE # 34

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Robbery Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Robbery Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	37.478	4.322	8.671	0.000**
NA γ_{10}	-1.744	0.394	-4.422	0.001**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	17.216	296.379	1628.892	0.000**
NA u_1	1.011	1.022	27.610	0.024*
R	11.412	130.236		

TABLE # 35

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Assault Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Assault Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	20.223	3.017	6.703	0.000**
NA γ_{10}	0.103	0.222	0.466	0.648
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	12.022	144.540	2102.844	0.000**
NA u_1	0.375	0.140	14.388	>0.500
R	7.465	55.723		

TABLE # 36

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Burglary Rate and Nuisance Abatement

$$\text{Level - 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{NA}) + r_{ij}$$

$$\text{Level - 2: } \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

Y = Burglary Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	55.362	2.402	23.053	0.000**
NA γ_{10}	-3.837	0.414	-9.273	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	9.429	88.902	134.937	0.000**
NA u_1	0.589	0.347	7.431	>0.500
R	23.544	554.306		

TABLE # 37

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Model of Grand Larceny Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Grand Larceny Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	42.315	5.075	8.339	0.000**
NA γ_{10}	-1.226	0.503	-2.435	0.028
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	20.210	408.431	1644.676	0.000**
NA u_1	1.419	2.013	35.796	0.002**
R	13.552	183.644		

TABLE # 38

** significant at the p<0.01 level

* significant at the p<0.05 level

Model of Grand Larceny Auto Rate and Nuisance Abatement

Level – 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(NA) + r_{ij}$

Level – 2: $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = Grand Larceny Auto Crime Rate

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	71.510	5.967	11.984	0.000**
NA γ_{10}	-5.739	1.106	-5.188	0.000**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	23.653	559.447	935.769	0.000**
NA u_1	3.662	13.412	32.228	0.006**
R	22.972	527.707		

TABLE # 39

** significant at the $p < 0.01$ level

* significant at the $p < 0.05$ level

Consolidated Table of Coefficients for Crime Categories and Nuisance Abatement Closings γ_{10}

γ_{10} = mean difference in crimes with an increase in Nuisance Abatement

<u>Crime Category</u>	<u>Coefficient γ_{10}</u>	<u>T-ratio</u>	<u>p-value</u>
Total Crime	-12.477	-8.563	0.000**
Violent Crime	-1.795	-3.420	0.004**
Property Crime	-10.482	-10.721	0.000**
Murder	-.0501	-1.900	0.076
Rape	-0.042	-1.053	0.310
Robbery	-1.744	-8.671	0.001**
Assault	0.103	0.466	0.648
Burglary	-3.837	-6.024	0.000**
Grand Larceny	-1.226	-2.435	0.028*
Grand Larceny Auto	-5.739	-5.188	0.000**

TABLE # 40

**Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

According to the above tables, Nuisance Abatement closings are significantly related to crime in several ways. The values of γ_{10} shows significant negative associations between total crime ($\gamma_{10} = -12.477$, $t = -8.563$, $p < 0.001$), violent crime ($\gamma_{10} = -1.795$, $t = -3.420$, $p = 0.004$), and property crime ($\gamma_{10} = -10.482$, $t = -10.721$, $p < 0.001$), robbery ($\gamma_{10} = -1.744$, $t = -8.671$, $p = 0.001$), burglary ($\gamma_{10} = -3.837$, $t = -6.024$, $p < 0.001$), grand larceny ($\gamma_{10} = -1.226$, $t = -2.435$, $p = 0.028$), and grand larceny auto ($\gamma_{10} = -5.739$, $t = -5.188$, $p < 0.000$). For these categories of crime an increase in NA closings is associated with a decrease crime. These statistics validate a significant inverse negative relationship between crime and NA and lend evidence to the usefulness of the narcotics strategy of controlling the places that are involved in drug activity.

The next are of interest is the application of NA closings as a tactic in the evolution of the Narcotics Initiatives in Queens during the study period. Again using HLM, the pattern of the use of Nuisance Abatement can be explored, in particular within the context of the deployment of the Initiatives. The trend of closings can be examined over time, as well as the difference in frequency of Nuisance Abatement closings between Initiative and non-Initiative precincts, and the change in frequency, if any, of the incidence of Nuisance Abatement closings during the time when the Narcotics Initiatives were deployed. The following models can be used to explore these relationships:

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

In this model Y_{ij} represents the number of nuisance abatement closings per month in the average precinct during the examination period. β_{0j} is the fixed effect and

represents the mean number of nuisance abatement closing before the presence of the Initiatives. $\beta_{1j}(\text{TIME})$ represents the change in the number of nuisance abatement closing experienced during the study period. $\beta_{2j}(\text{PROG1})$ represents the change in the number of NA closings during the deployment of the SEQI, and $\beta_{3j}(\text{PROG2})$ represents this same change during the deployment of the QNNI.

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

These models permit exploration of the change in frequency of Nuisance Abatement closings, the differences between Initiative and non-Initiative precincts, and the change in the incidence of Nuisance Abatement closings during the Initiatives' deployment.

The term γ_{00} represents the mean number of Nuisance Abatement closings in the average non-Initiative Queens precinct during the study period (100, 101, 102, 104, 106, 107, 108, 109, 111, 112). The term γ_{01} is the average number of NA closings in SEQI precincts (103, 105, 113), and the γ_{02} is the average number of NA closings in QNNI precincts (110, 114, 115).

Other statistics of interest are the terms γ_{21} and γ_{31} . These statistics indicate the change in Nuisance Abatement closings in the SEQI precincts after the start of the

Initiative (γ_{21}), and in the QNNI after the start of that Initiative (γ_{31}). The following table is a concise presentation of these statistics:

Initiative Effects of NA Closings

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

Y = NA

<u>Fixed Effect</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-ratio</u>	<u>p-value</u>
Grand Mean γ_{00}	0.581	0.140	4.157	0.000**
γ_{01}	0.371	0.149	2.495	0.027*
γ_{02}	0.481	0.149	3.237	0.007**
TIME γ_{10}	0.018	0.005	3.480	0.004**
Displacement Effect SEQI γ_{20}	-0.014	0.128	-0.106	0.917
Initiative Effect SEQI γ_{21}	0.671	0.198	3.384	0.005**
Displacement Effect QNNI γ_{30}	-0.541	0.174	-3.109	0.008**
Initiative Effect QNNI γ_{31}	0.536	0.213	2.519	0.025*
<u>Random Effect</u>	<u>Standard Deviation</u>	<u>Variance Component</u>	<u>Chi-Square</u>	<u>p-value</u>
U_0	0.437	0.191	38.318	<0.0001**
U_1	0.015	0.0002	22.419	0.097
U_2	0.079	0.006	5.597	>0.50
U_3	0.520	0.270	35.105	0.002**
R	1.012	1.025		

TABLE # 41

**significant at the $p < 0.01$

*significant at the $p < 0.05$

According to table 41, the average non-Initiative precinct in Queens had 0.581 NA closing per month before the start of the Initiatives (γ_{00}). The data also show that in the SEQI precincts there were 0.371 more NA closings before the start of the Initiatives (γ_{01}). This value is significant with a t-ratio of 2.495 and $p=0.027$. Also, the data indicate that there is a significant increase of 0.481 in the number NA closing in QNNI precincts before the Initiatives (γ_{02} , $t = 3.237$, $p=0.007$)

Table 41 also indicates that over the course of the study period NA closing in the average Queens precinct increased at a significant rate. The term γ_{10} shows the average monthly change in the number of NA closings. The value of γ_{10} reported is 0.018, with a t-ratio of 3.480 and a $p=0.004$, which indicates a significant increase of approximately 0.02 closings per month per precinct over the six year period. Most interesting are the statistics represented by the terms γ_{21} , the impact of the SEQI, and γ_{31} , the impact of the QNNI on the change in Nuisance Abatement closings. Table # 10 shows that $\gamma_{21} = 0.671$ with a $t = 3.384$ and $p=0.005$. This indicates that in the average SEQI precinct during the time that the SEQI was deployed Nuisance Abatement closings increased significantly by a value of approximately 0.67 closings per month per precinct over the other non-Initiative precincts. Likewise, table 41 shows that $\gamma_{31} = 0.536$ with a $t = 2.519$ and $p=0.025$. Similar to the Initiative effect found in the SEQI precincts, the number of Nuisance Abatement closings in the QNNI precincts during the deployment of the QNNI had a significant increase on average of approximately 0.54 Nuisance Abatement closings per month.

Looking at the bottom panel of table 41 and we can see important differences in the experience of Initiative precincts and their level of NA closings. The values reported

for u_2 and u_3 represent the between precinct differences of the precincts receiving the deployment of the Narcotics Initiatives. If the Initiative precincts all had similar experiences with respect to their level of NA closings, then the random effects of these variables should be non-significant. This is the case for the SEQI precinct, but not for QNNI. The value of u_2 , related to SEQI precincts, shows non-significance, thus indicating those three precincts experienced similar increases in NA closings and there is not much between-precinct variation. The value of u_3 , however, is significant, which indicates that there are differences between the precincts covered by the QNNI with respect to their level of NA closings. Determining the plausible range of values for QNNI and we find a range that could include zero.

In summary, it appears that NA closings increased over time, that all precincts experienced a significant increase in NA closings, Initiative or not, and these increases occurred after the deployment of the Initiatives. Furthermore, and consistent with prior findings, there appears to be a significant difference in the level of NA closings between precincts. This difference is most notable in the Initiative precincts. In the SEQI precincts there does not appear to be significant between precinct variation in the level of NA closings. This similarity, however, was not observed in QNNI precincts where the level of NA closings is significantly different.

CCRB

The Civilian Complaint Review Board is the New York City agency charged with receiving, processing, and investigating complaints made by the public against New York City Police Officers for allegations of excessive or unnecessary force, abuse of authority,

discourtesy, and offensive language. (CCRB, 2004) As discussed above civilian complaints (CCRBs) can be indicative of an overly aggressive police force, and police tactics that are inappropriate and in opposition to community and individual needs (Johannes, 2000). Assuming these assertions to be accurate, the incidents and frequency of CCRBs can be a useful measure to gauge the relative success of the Narcotics Initiatives deployed by the NYPD in Queens during the study period. If the Narcotics Initiatives were merely unwelcome intrusions into neighborhoods designed to arrest citizens unnecessarily, then there would be an expected rise in the number of CCRBs lodged by citizens during this time. Allegations of unnecessary force, abuse of authority, etc., would surely capture police misconduct and provide a glimpse into the overall effectiveness of the Initiative concept. Essentially, the Initiative concept, targeting drug organizations, and drug prone locations, through aggressive enforcement and seizure of property might be effective at reducing serious crime, but if this is accomplished with objectionable police conduct then the whole effort might not be worthwhile. In a nutshell, if communities have to endure mistreatment by the police to achieve lower crime rates, a net social benefit would not be achieved. What is more harmful to a neighborhood, drugs and serious crime, or a brutal and abusive police force?

The converse of this argument can also be advanced. If the Narcotics Initiatives were deployed in a manner that reduced crime and drug use and sales and did not entail abuse by the police, then they could be deemed worthwhile in the attempt to improve community order and safety. To explore these arguments data from the CCRB on monthly complaints can be compared with crime and arrest rates, as well as a comparison

to incidents of CCRBs during the time, and in the precincts, when the Narcotics Initiatives were being deployed. Again HLM can be used to explore these relationships.

The first line of inquiry will be to examine the relationship between CCRBs and crime. It is intuitive that in precincts with greater crime, there will be greater incidence of police intervention into peoples' lives. Precincts with more crime typically will have more arrests, more victimization, more requests for police service, and as a logical extension, more complaints against the police. The following HLM models can be used to explore this relationship:

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CCRB}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

In these models Y_{ij} is the average number of crimes per 100,000 residents, and CCRB is the number of reported complaints against the police in a given month. The term γ_{10} can be examined to determine the relationship between CCRBs and serious crime. The statistics from these models are as follows:

Relationship between CCRB and Total Crime Rate

Level-1 $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{Crime100}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = CCRB

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	0.957	0.416	2.301	0.036*
Crime100 γ_{10}	0.007	0.002	3.643	0.003**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	1.384	1.916	15.789	0.015*
Crime100 Slope u_1	0.006	0.00004	9.480	0.148
Level-1 r_{ij}	1.827	3.337		

TABLE # 42

**significant at the $p < 0.01$

*significant at the $p < 0.05$

According to the statistics in table 42 it appears that there is a significant and positive relationship between CCRB complaints and total crime rate. As serious crime increases, so do complaints against the police. This confirms the hypothesis stated above and can be used in understanding the relative success of the Narcotics Initiative deployment.

The next step in the analysis is to explore the changing incidence of CCRBs over time during the study period. Like prior analyses this relationship is captured using HLM and the following models:

$$\text{Level-1} \quad Y_{ij} (\text{CCRB}) = \beta_{0j} + \beta_{1j}(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

This model allows for the observation of the change in the number of reported CCRB complaints during the course of the period under observation. The dependent variable is the number of CCRB complaints lodged and it is modeled as a function time. The table below summarizes the results of this model:

Change in Reported CCRB Complaints during Study Period

Level-1 $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

Y = CCRB

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	2.561	0.266	9.614	<0.0000**
TIME γ_{10}	-0.025	0.006	-3.932	0.002**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	1.081	1.168	418.225	<0.000**
TIME Slope u_1	0.024	0.001	99.754	<0.000**
Level-1 r_{ij}	1.764	3.111		

TABLE # 43

**significant at the $p < 0.01$

*significant at the $p < 0.05$

Table 43 demonstrates several interesting findings. First, the average precinct in Queens during the study period logged 2.561 CCRBs per month. And second is that the incidence of report CCRBs declined during the study period on average 0.025 complaints per month per precinct. This decrease is significant with a t-ratio of -3.932 at $p = 0.002$. Prior analysis showed that CCRB complaints and serious crime were positively and significantly related. This further exploration of the data shows that as crime decreased across Queens county during the study period, so did CCRB complaints.

Looking at the bottom panel of table 43 it can also be seen that the differences between Queens' precincts with regard to CCRB complaints are significant. The random effects of the above model indicate that there is a significant difference between precincts with the level of reported CCRB complaints, as well as the rate of change of those levels of complaints during the study period. Using the random effects reported for u_0 , the plausible range of mean CCRB complaints is computed between 0.44 and 4.68 complaints per month on average. This is a significant difference between precincts, with a p-value of $p < 0.0001$. Similarly, the rate of change of the level of CCRB complaints is significantly different between precincts. Again, using the random effects for u_1 , the plausible range of the rates of change in CCRB complaints could vary from -0.072 to 0.022 in the average month. This too, is significant with $p < 0.0001$. In summary, it can be concluded that the overall level of reported CCRB complaints significantly declined. There was, however, considerable and significant variation between precincts with respect to both the precinct mean level of CCRB complaints and the rate of change in that level of complaints over time.

Similar to prior analyses, demographic variables can be explored at level-2 to determine their influence of the incidence of CCRB complaints. When the eight demographic variables are entered into the HLM level-2 exploratory analysis in the above models, the following results are obtained:

Level – 2 Predictor Variables Related to CCRB Complaints

DEPENDENT VARIABLE IS CCRB

Level-2 Demographic Variable	Coefficient	Standard Error	t-value
POPDENS	0.000	0.000	-0.309
PUBASST	4.466	5.165	0.865
POVERTY	2.153	5.766	0.373
UNEMPMEM	16.918	9.455	1.789
MEDINC	-0.000	0.000	-0.203
NONHSGRAD	4.854	4.013	1.210
MINOR	3.304	1.025	3.223*
CDCHANGE	-2.263	1.886	-1.201

Table # 44

**significant at the $p < 0.01$

*significant at the $p < 0.05$

Table 44 above indicates that the demographic variable of minority residents is positively and significantly related to CCRB complaints. Specifically, this shows that in precincts where there is a higher percentage of minority residents there will likely be a greater incidence of civilian complaints lodged against the police. With this information it is possible to create other models to better understand the hierarchical relationship between minority status and CCRBs. The following models explore this relationship:

$$\text{Level-1} \quad Y_{ij} (\text{CCRB}) = \beta_{0j} + \beta_{1j}(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{MINOR}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

This model allows for a better understanding of the impact of the percentage of minority residents on the overall average number of CCRBs in a precinct. In this case the change in CCRB becomes a function of the variable MINOR at level-2. The table below summarizes the statistics from this model:

Impact of Minority Representation on CCRB Complaints

$$\text{Level-1} \quad Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{MINOR}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

Y = CCRB

<u>Fixed Effects</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>T-ratio</u>	<u>p-value</u>
Mean Intercept γ_{00}	0.880	0.575	1.531	0.148
MINOR γ_{01}	2.513	0.796	3.156	0.008**
TIME γ_{10}	-0.025	0.006	-3.806	0.002**
<u>Random Effects</u>	<u>Standard Dev.</u>	<u>Variance</u>	<u>Chi-square</u>	<u>p-value</u>
Intercept u_0	0.843	0.711	250.881	0.000**
TIME Slope u_1	0.024	0.001	99.754	<0.000**
Level-1 r_{ij}	1.764	3.111		

TABLE # 45

**significant at the $p < 0.01$

*significant at the $p < 0.05$

According to table 45 the percentage of minority residents is an important variable in the incidence of reported CCRBs. The demographic variable MINOR is positively and significantly related to CCRBs. The relationship is so strong that it dwarfs all other possible variables and renders the overall relationships insignificant. The relevance of CCRBs, therefore, cannot be considered without considering the concentration of minority residents in a particular precinct.

The next step in the analysis of CCRBs is to examine the incidence of complaints lodged in relation to the timing of the Initiatives' deployment. Consideration must be given in these models to the contribution of the minority effect disclosed by the above analyses. To explore the relationship between CCRB complaints and Initiative deployment the following HLM models can be used:

$$\text{Level-1} \quad Y_{ij} (\text{CCRB}) = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + \gamma_{03}(\text{MINORITY}) + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$$

In the level-1 model the incidence of CCRB complaints is examined over time within the context of the Narcotics Initiatives. The terms γ_{00} , γ_{02} , and γ_{03} can be used to explain the experience of CCRBs over time, taking into account whether or not the precinct is an Initiative command, and the percentage of minorities residing in the

precinct. The terms γ_{21} and γ_{31} can be used to explain the change in reported CCRB complaints, if any, in the Initiative precincts during the time the Initiatives were deployed.

Impact of Initiative Deployment on CCRB Complaints

Level-1 $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{TIME}) + \beta_{2j}(\text{PROG1}) + \beta_{3j}(\text{PROG2}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + \gamma_{01}(\text{INIT1}) + \gamma_{02}(\text{INIT2}) + u_0$

$\beta_1 = \gamma_{10} + u_1$

$\beta_2 = \gamma_{20} + \gamma_{21}(\text{INIT1}) + u_2$

$\beta_3 = \gamma_{30} + \gamma_{31}(\text{INIT2}) + u_3$

Y = CCRB

<u>Fixed Effect</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-ratio</u>	<u>p-value</u>
Grand Mean γ_{00}	1.828	0.413	4.424	0.001**
CCRBs in INIT1 γ_{01}	2.400	0.453	5.298	0.000**
CCRBs in INIT2 γ_{02}	0.357	0.354	1.008	0.334
MINOR Effect γ_{03}	0.272	0.646	0.421	0.681
TIME γ_{10}	-0.026	0.012	-2.137	0.049*
Displacement Effect SEQ1 γ_{20}	0.170	0.281	0.605	0.554
SEQ1 Effect on CCRB γ_{21}	-0.535	0.357	-1.501	0.155
Displacement Effect QNNI γ_{30}	-0.060	0.218	-0.275	0.787
QNNI Effect on CCRB γ_{31}	0.341	0.380	0.898	0.385
<u>Random Effect</u>	<u>Standard Deviation</u>	<u>Variance Component</u>	<u>Chi-Square</u>	<u>p-value</u>
u_0	0.440	0.194	22.554	0.031*
u_1	0.042	0.002	54.227	0.000**
u_2	0.699	0.488	24.107	0.044*
u_3	0.336	0.113	12.200	>.500
R	1.757	3.089		

TABLE # 46

**significant at the $p < 0.01$

*significant at the $p < 0.05$

According to table 46 the incidence of reported CCRBs is complex. It appears that the previously discovered contribution of the demographic variable MINOR disappears when entered into these models. The term γ_{03} shows the influence of minority residents on the number of CCRBs and in this model it is non-significant ($t = 0.451$, $p = 0.659$). In this model the influence of the statistic γ_{01} takes on an overwhelming influence in the incidence of reported CCRBs ($= 2.400$, $t = 5.298$, $p < 0.001$), and completely displaces the minority impact. Closer examination can provide a plausible explanation for this observation. The ethnic breakdown of precincts served by the SEQI (103,105, 113), represented by γ_{01} , show a high level of minority residents. The percentage of minority residents in these precincts is 97.1%, 81.9%, and 98.5% respectively. What contributes most to the MINOR-PROG1-CCRB relationship, therefore, is not the percentage of minority residents, but the contribution of the SEQI precincts' residents, which are almost completely made up of minorities.

The statistics in table 46 also continue to demonstrate the significant decline in reported CCRBs over the study period in Queens. This is a finding that was uncovered in previous models and holds true here. The table also shows that the deployment of the Narcotics Initiatives in Queens during the study period did not have an impact on the incidence of reported CCRBs. Table 46 shows γ_{21} , the CCRB effect from the SEQI deployment. The coefficient is -0.535 with a $t = -1.621$, and $p = 0.127$. This demonstrates that during the time the SEQI was deployed there was a non-significant change in the incidence of reported CCRBs. A similar experience can be found during the QNNI. The term γ_{31} from table 46 above indicates a non-significant change in CCRBs during the time QNNI was in effect. The coefficient for γ_{03} is 0.341, with a $t =$

0.898 and $p = 0.385$. These statistics indicate that during the time both Initiatives were in place there was not a significant change in the report levels of CCRBs.

The last set of relationships pertaining to the incidence of reported CCRB and Initiative deployment is the relationships between CCRB complaints, Nuisance Abatement closings, Controlled Substance, and Marijuana arrests. Similar to the argument advanced above, increased levels of police activity could likely be associated with increased levels of CCRBs. This plays into the discussion that aggressive police tactics, contemporaneous with the deployment of the Narcotics Initiatives, might come at too high a cost when police misconduct overwhelms the benefit of reduced levels of drugs and crime. In general the following model can be used to describe the relationship:

$$\text{Level-1} \quad Y_{ij} (\text{CCRB}) = \beta_{0j} + \beta_{1j}(\text{NA}) + \beta_{2j}(\text{CS100}) + \beta_{3j}(\text{MARIJ100}) + r_{ij}$$

$$\text{Level-2} \quad \beta_0 = \gamma_{00} + u_0$$

$$\beta_1 = \gamma_{10} + u_1$$

$$\beta_2 = \gamma_{20} + u_2$$

$$\beta_3 = \gamma_{30} + u_3$$

This model simply explores complaints as a function of nuisance abatement, controlled substance arrest rate, and marijuana arrest rate. The statistics obtained from this model are summarized below:

CCRB Complaints related to Nuisance Abatement, Controlled Substance Arrest Rate and Marijuana Arrest Rate

Level-1 $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{NA}) + \beta_{2j}(\text{CS100}) + \beta_{3j}(\text{MARIJ100}) + r_{ij}$

Level-2 $\beta_0 = \gamma_{00} + u_0$

$\beta_1 = \gamma_{10} + u_1$

$\beta_2 = \gamma_{20} + u_2$

$\beta_3 = \gamma_{30} + u_3$

Y = CCRB

<u>Fixed Effect</u>	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-ratio</u>	<u>p-value</u>
Grand Mean γ_{00}	2.508	0.310	8.103	0.000
NA γ_{10}	-0.006	0.052	-0.125	0.903
CS100 γ_{20}	0.011	0.004	2.915	0.011*
MARIJ100 γ_{30}	-0.011	0.003	-3.733	0.002**
<u>Random Effect</u>	<u>Standard Deviation</u>	<u>Variance Component</u>	<u>Chi-Square</u>	<u>p-value</u>
u_0	1.142	1.304	740594	0.000
u_1	0.027	0.001	110536	>.500
u_2	0.002	0.000	8.247	>.500
u_3	0.006	0.00004	37.297	0.001
R	1.850	3.422		

TABLE # 47

**Significant at $p < 0.01$

*Significant at $p < 0.05$

Table 47 presents some interesting findings. According to the statistics listed above, there is a significant relationship between the number of CCRB complaints and the rate of arrests for controlled substances and marijuana, but they operate in different directions. For the variable CS100 the value for γ_{20} is 0.011 with a $t = 2.915$, which is significant at the $p=0.011$ level. This indicates that as the rate of arrests for controlled substances increases, so does the number of CCRB complaints. This is a logical extension of the relationship between CCRB complaints and crime. As police activity increases, so does the level of complaints. Interestingly, there is an inverse relationship between CCRB complaints and marijuana arrest rate. As marijuana arrest rate raises CCRB complaints decline. For every increase in one unit in the rate of marijuana arrest there is a decrease of 0.011 CCRB complaints in the average month. The value of γ_{30} is -0.011 with a $t = -3.0733$, which is significant at the $p = 0.002$ level. Furthermore, according to table 47, there is a non-significant relationship between CCRB and nuisance abatement.

In summary, the relationship between CCRB complaints and police activity is complex. This research has found that the level of CCRB complaints is significantly related to the rate of crime in a given precinct: the more crime the more CCRB complaints. It appears that the level of reported CCRB complaints decreased over the study period. There were, however, significant differences between precincts with respect to both the mean level of monthly CCRB complaints, as well as the change in the rate of reported complaints. It also appears that the concentration of minority residents is an important consideration when evaluating the level of reported citizen complaints

against the police. Furthermore, the deployment of the two Narcotics Initiatives does not appear to have had any influence on the levels of CCRB complaints. The levels of reported complaints did not change significantly during the periods when the NYPD deployed both SEQI and QNNI. And lastly, levels of reported CCRB complaints seem to move in opposite directions depending of the nature of the category of arrest rate. With respect to controlled substance arrest rate, CCRB and arrest rate are positively and significantly related. With respect to marijuana arrest rate the opposite is true, the relationship is inverse and still significant, as marijuana arrests increase CCRB complaints decrease.

The next section of this paper will turn to a discussion of the statistical analyses presented here. This section will put this information into a broader context of criminal justice issues to better illuminate the findings.

VI. **Discussion**

The changing rate of crime

Examination of the rates of crime and rates of arrest for controlled substances and marijuana in Queens during the period of time the NYPD deployed Narcotics Initiatives revealed some interesting results. The statistical analysis from the previous pages shows that there are no easy answers, and describing the complex relationship between serious crime and drug enforcement requires greater explanation.

One thing is for certain, serious crime during the period under observation declined significantly. Table 2 shows that on average each precinct experienced a 2.08 decrease in serious crime every month during the observation period. This result was overwhelmingly significant with a p-value less than 0.0001. Table 2 also showed that each precinct in Queens had a unique starting value for serious crime. Essentially, this means that precincts, and the communities they serve, are different when it comes to crime levels. The 16 precincts in Queens, therefore, are different in the rates of crime they experience.

So, too, are the precincts different in the rate of crime decrease they experienced. While table 2 indicated that on average there was a 2.08 decrease in crime each month, the random effects statistic of that decrease in crime over time indicate a significant difference in the relative decreases in Queens' precincts. The value of u_1 in table 2 shows a p-value less than 0.0001. This means that the different precincts in Queens experienced different rates of decrease in crime. While the average crime decrease was 2.08 per month, the different communities in Queens were likely to experience different rates of change. This seems to make sense in the context of different starting values as indicated

above. If a precinct has a higher average rate of crime in the first place, it is likely that this precinct has the potential to drop crime faster than another precinct that did not have much crime to begin with.

In a sense, this states the obvious: Crime decreased in Queens during the study period. The 16 different precincts in Queens had different average crime rates at the starting point of the study period; and, there were significant differences in the crime rate decreases across the precincts during the study period. The discussion will now center on attributing relative causation to the significant decrease in crime in Queens within the context of drug enforcement and operations of the NYPD.

Throughout the last 40 years the study of crime has been subjected to serious academic scrutiny. Crime, or conversely, the cause of crime was thought to be rooted in large scale social forces. (Yablonsky, 1990; Wilson and Petersilia, 1995) Scholars looked to understand crime by understanding the social dynamics that were thought to bring about the conditions to make crime possible, if not cause crime directly. Unemployment, for example, is thought to be related to crime. (Chiricos, 1987; Freeman, 1983) If a person does not have a job, cannot find a job, or does not have the skills to be employable, crime is a likely substitute for the work that he/she cannot find. Population density is a similar social characteristic. In areas where the population is denser, crime may be more likely. Not only might there be greater opportunity to commit crime, there might be greater interpersonal contact, and, therefore, a greater possibility for interpersonal violence. Simply put: a man alone on a deserted island will not know interpersonal violence. With these assumptions in mind, certain demographic variable

commonly thought to be associated with crime were used to explore crime rate in Queens. With the evidence that crime decreased significantly during the study period, it becomes important to understand contributions these demographic variables made to the changing rate in crime, and if any of them need to be used to control for the levels of crime to properly account for this changing crime picture.

The variables were obtained from the 2000 US Census and were customized by the New York City Department of Planning to fit into Community Board Districts. These districts are the organizational boundaries for the division of service delivery in New York City and match exactly with the boundaries of police precincts (as well as Sanitation, Fire, etc.) The variables selected for inclusion in this study represented a mix of education, income, and population data. Specifically, population density, the percentage of people receiving public assistance, the percentage of people below the federal poverty rate, the percentage of unemployed men aged 18-24, the median income, the percentage of people that are not high school graduates, and the percentage of minority residents were all included in the various statistical models. Surprisingly, not one of the variables in question was found to have any association with the rate of crime (after population was controlled for). As table 4 indicated, not one of the variables listed above showed a significant relationship to crime rate as a Level – 2 predictor variable.

These findings, while surprising, are also consistent with Kelling and Sousa's study of the impact of New York City Police reforms. (Kelling and Sousa, 2001) In their analysis, Kelling and Sousa looked at the number of young males (males enrolled in public high school), and the number of unemployed in a given borough in New York City. They found that the number of males was not statistically significant to crime.

Furthermore, and in a direction opposite to the one predicted, the number of unemployed in the borough was positively related to crime. These findings showed that demographic variables thought to be causes of crime were either not related, or related in a way inconsistent with conventional thinking (Kelling & Sousa, 2001). The important part of this information is that Kelling and Sousa examined all of New York City police precincts on a monthly basis from 1989 to 1998, thus overlapping a portion of this study. This research, therefore, examines some of the same data, and also examines it on monthly intervals and relies on hierarchical modeling for statistical analysis. Arriving at similar conclusions with the respect to demographic characteristics provides further evidence of the relative unimportant contribution that these forces made to the decrease in crime in Queens during the study period.

With crime rate decreasing, and demographic variables not a factor, the study can turn now to other factors that might offer some explanation, namely, the contribution of arrests for controlled substances and marijuana. Illicit drug use is an important social issue. There is no shortage of opinions on the utility of enforcement as a means to curb illegal drug use. Many scholars are strong advocates for “harm reduction” methods for lowering drug use in our communities as opposed to strict enforcement policies. Still many more scholars call for the legalization of these substances, equating illegal drug usage with other harmful substances like nicotine or alcohol. (Marshall, 1988; Terkel, 1990; Evans and Berent, 1992; Schaler, 1998; Gottfried, 2000) New York City police policies during the period under study took a different position. The position was one of enforcement of the laws prohibiting illegal drug use.

The changing rate of arrests

Before the discussion turns to the relationship between serious crime rate and drug arrest rate, it is useful to examine the Queens experience with respect to drug arrests. As table 1 showed, the NYPD invested a substantial amount of resources into drug enforcement in the terms of Narcotics Initiatives. In the 103 Precinct, for example, the number of personnel increased from 18 to 126 after the start of SEQI, or a 600 percent increase. In total, the narcotics units covering the SEQI precincts experienced a 233 percent increase in personnel and the ones covering the QNNI precincts experienced a 100 percent increase in personnel because of the Initiatives. Also, as discussed, the Initiative concept was based on a three-prong approach to eradicating drug activity: gang/brand, location, and maintenance after seizure. One of the assertions of this research is that drug arrest rate will be an indicator of police activity to accomplish the mission to eradicate drug sales, use, and be the basis for abating drug prone locations. It is useful, therefore, to first examine the incidence of drug arrest rate during the study period to understand the enforcement dynamics employed by the NYPD particularly within the context of the deployment of the two Narcotics Initiatives in Queens.

The statistics from tables 5 and 25 are helpful in understanding this issue. According to the information contained in these tables the rate of drug arrests is mixed, and not what one would predict in light of a stated heightened enforcement policy by the NYPD. Surprisingly, the rate of controlled substance arrest rate did not significantly change in Queens during the period under observation. Despite an enormous increase in staffing aimed at narcotics enforcement in six of the sixteen police precincts in Queens the rate of controlled substance arrest rate did not change. Not only did the rate of

controlled substance not change during the overall study period, it did not change significantly when the SEQI was deployed, nor did it change when the QNNI was deployed. The fanfare and rhetoric associated with aggressive narcotics enforcement did not appear to be true in Queens before, during, or after the Narcotics Initiatives, at least for controlled substance arrest rate.

Just to double check the finding discussed above, the models were recomputed substituting controlled substance arrest rate with total controlled substance arrest. Assuming that perhaps the Narcotics Initiatives were deployed in overly populous precincts thereby giving population an overly influential role in arrest rate, the identical models were re-run analyzing total arrest without controlling for population. This substitution did not change the results. Controlled substance arrests were still found not to change over the study period overall or during the implementation of the two Narcotics Initiatives. The results are not provided because they offer the same conclusion, and it believed that rate is the more appropriate measure to be studied.

The same case cannot be made for marijuana arrest rate. Tables 6 and 26 show the results of the models that explore marijuana arrest rate over time. Table 6 provides the results of the unconditional model which shows marijuana arrest rate increasing 0.522 in the average precinct each month. This result is significant with a $t=3.683$ and $p=0.003$. Also, eight level-2 predictor variables were used in an exploratory analysis to determine if any demographic variables influence the marijuana arrest rate. Table 9 indicates that none of the eight level-2 predictors influence marijuana arrest rate.

The impact of the Narcotics Initiatives on the arrest rate of marijuana show mixed results. Table 26 shows that after the deployment of the SEQI, marijuana arrest rate

increased by 23.564 in the average SEQI precinct. This finding was significant with a $t=4.155$ and $p=0.001$. Also after the deployment of the SEQI, marijuana arrest rate appeared to have remained stable in non-SEQI precincts. Table 26 does not show a displacement effect with marijuana arrest rate in non-SEQI precincts increased by 2.645 in the average month. This finding is non-significant at $t=1.061$. This demonstrates that the deployment of SEQI had an impact on arrest rate in SEQI precincts, but not in non-SEQI precincts. It appears, in light of the findings regarding controlled substance arrest rate, the aggressive arrest policy proclaimed by the NYPD in deploying the Queens Initiatives turned out to be directed at marijuana arrests and not controlled substance arrests. Also, this effect does not appear to have crossed precinct lines and occurred in commands benefiting from SEQI and not benefiting from SEQI. The deployment of both Initiatives was executed without a blurring of the enforcement lines between Initiative and non-Initiative personnel.

The SEQI experience was not replicated during QNNI. Again, the results from Table 26 show that there was a non-significant increase of marijuana arrest rate of 13.014 in the average month in QNNI precincts after the deployment of QNNI. Furthermore, there did not appear to be a displacement effect to other non-QNNI precincts after the QNNI deployment. So despite the 100 percent increase in personnel associated with the QNNI deployment the marijuana arrest rate did not change significantly. The aggressive arrest policy of the NYPD did not materialize in Queens within the context of the QNNI.

Apparently the success of the Narcotics Initiatives, if any, cannot be measured in the rate of drug arrest. In three of the four possible outcomes (controlled substance rate for SEQI and QNNI, and marijuana arrest rate for SEQI and QNNI), arrest rate did not

change with the advent of the Initiatives. Controlled substance arrest rate did not change with either of the Initiatives' deployment, and only the rate of marijuana arrest rate increased after the deployment of the SEQI, not with QNNI.

There are several possible explanations for these findings. First, the build-up in staff was not necessary. Regardless of the number of officers you assign to enforcement efforts, if the incidence of drug sales and use is not present, arrests cannot be made. The police need probable cause to make arrests and if it is not present arrests cannot be made. This supports the claim that the nature of drug use changed. As Curtis (1998) argues, the police had nothing to do with the change in the use of drugs because inner-city youth grew to recognize the devastating impact of drug use and stopped taking them on their own. This explanation can be supported by the finding above that the NYPD, within the policy of aggressive drug enforcement, did not significantly increase the rate of controlled substance arrests over a six year period. The prevalence of drugs in Queens' communities could have been ameliorated before the NYPD's aggressive approach because the demand for such drugs decreased because of an increased negative view of the would-be consumers of those drugs.

Second, is that controlled substance arrests went from an uncoordinated array of activity to one focused on seizing gangs and locations consistent with the philosophy delineated by Deputy Chief McCarthy as the foundation of the "initiative concept." Under this philosophy arrest strategies transform from a scatter-shot method where people are arrested without any coordinated purpose other than to address their specific behavior, to targeting gangs and locations where the purpose of the arrest is greater than the individual acts of the arrestee. The philosophy behind an arrest could have changed

from one to answer out official complaints of drug use or sales to a more focused approach targeting the elimination of gangs and drug prone locations. With the use of nuisance abatement laws the arrest became an important part of the strategy to close drug locations. Perhaps the arrest rate is a reflection of this philosophical change. The rate and raw number of arrest for controlled substance could remain the same and have greater impact if the arrests were targeted toward the elimination of gangs and locations. The same number of arrests, or less even, would have been necessary, therefore, to accomplish an even greater goal. This conclusion, however, demands greater analysis beyond the scope of this effort.

Third, controlled substance arrest rate could have remained stagnant because the Narcotics Initiatives were deployed after the prevalence of drug use had already fallen. The SEQI was deployed in late 1997; almost four years after the NYPD began the COMPSTAT process tracking crime outcomes. Significant effort to address drug use and sales could have displaced it long before SEQI started. Controlled substance arrest rate could have peaked, and reached a plateau, by the time these Initiatives began. This explanation, however, does not withstand scrutiny in the context of a significant increase in the marijuana arrest rate. This seems incompatible with an organizational analysis presumably performed by the NYPD to select these areas for heightened enforcement. If the incidence of drug use and sales had already abated before the start of SEQI, why did SEQI start in the first place. The fact that SEQI was deployed indicates that there must have been enough drug activity to warrant the investment of substantial amounts of resources by the NYPD.

Perhaps there were political reasons why SEQI and QNNI were allowed to start without justification. The “me too” of local politics may have driven the demand for police services, not because they are truly necessary, but because another part of the City benefited from similar services at an earlier time. In this context, Queens county benefited from the Narcotics Initiatives, not because they were needed, but because Manhattan, Brooklyn and the Bronx, got them already. Queens was simply getting its share of the pie.

An additional consideration with respect to arrest rates in Queens’ precincts is the apparent lack of a relationship between minority representation and arrest rate. Many critics have charged the “war on drugs” is nothing more than an aggressive social control policy directed at the minority community. With the incidence of drug use just as high in the “white” suburbs of America, the aggressive arrest policies of the NYPD would do nothing more than target minority groups, further marginalizing them from mainstream society.

While far from settling this issue definitively, the present research speaks to a “color-blinded” approach towards drug arrest. Tables 7, 8, and 9 report the relationship between the demographic variables used in this study and the rate of controlled substance and marijuana arrests. The information from these tables shows that the demographic variable MINOR, which captures the percentage of minority residents in a given precinct, has a non-significant relationship with arrest rate. If the police were targeting minority residents over their white counterparts this variable would have figured more prominently into the grand mean of arrest rate. The fact that the percentage of minority residents was

not found to be related to arrest rate points to a conclusion that police arrest policies are not driven by race.

In summary, this research has determined that arrest rate for controlled substances did not increase over the study period. The arrest rate for marijuana, however, showed a significant increase during the same time. The deployment of the Narcotics Initiatives seemed only to be related to a change in marijuana arrest rate under the first deployment of SEQI. The deployment of QNNI did not have a significant contribution to the changes in arrest rate for either controlled substances or marijuana. Furthermore, the arrest practices directed toward illicit drugs during this time did not appear to be related to race. The variable representing minority status was found to have a non-significant relationship to both controlled substance arrest rate and marijuana arrest rate.

The reasons discussed above, however, are beyond the scope of this research, but offer interesting explanations of the findings reported here. Undoubtedly there is not a single cause to explain the stagnant arrest rates found within the study period, but more likely a combination of the many causes presented. With this in mind, the discussion can turn to the relationship between drug arrest rate and crime rate. This will provide more information on the complex issue of drugs and crime and lend greater explanation to the inconsistencies noted above.

The relationship between crime and drug arrest

In order to understand the relationship between arrest rate and crime it is necessary to turn to tables 10 through 19 in the statistical analysis section of this report. Table 10 reports the relationship between total crime rate and arrest rates for controlled substance

and marijuana offenses, and shows some interesting findings. According to the statistics listed in table 10, arrest rates for both categories of drug arrest are significantly related to crime rate. The direction of that association, however, is in opposite directions.

For controlled substance arrest rate, the model showed that an increase of one unit in arrest rate was related to a 1.044 unit increase in crime rate. This is significant with $t = 3.356$ at the $p=0.005$. Furthermore, the rate of this change is different from precinct to precinct. The bottom panel of table 10 shows that there is a significant difference of the slopes associated with the contribution of controlled substance arrest rate toward crime rate, thus signifying that precincts experienced different rates of controlled substance arrest rate.

This result is somewhat surprising and not predicted. Essentially, this result shows that as crime rate increases, so does controlled substance arrest rate, or plainly, the more serious crime, the more controlled substance arrests. If controlled substance arrests are a means for reducing serious crime, however, the results would have been in the other direction. This finding demonstrates otherwise.

This finding also gives weight to the argument about the nature of hard drug use. It has been argued that drug crime *is* serious crime, in and of itself, and it is more like other serious crimes in the model used as dependent variables. In fact, along this line of reasoning, controlled substance offending should not be used an independent variable when exploring serious crime. Drug crime is serious crime and should not be seen as a predictor of other, assume to be, conventional crime. (Harcourt, 2002) This is consistent with the finding that drug arrests go hand-in-hand with the other measures of crime in this study. As crime goes up so do drug arrests, and presumably the incidence of drug

activity. This is analogous to saying that as the incidence of burglary increase so does burglary arrest, which seems obvious.

Another conclusion that is plausible when considering these results is that crime and controlled substance activity exist at the same place and time. Where crime is more frequent, so is the incidence of drug use. Areas of Queens that experienced higher levels of crime also experienced higher levels of narcotics enforcement. This is particularly interesting in light of the fact that the rate of controlled substance arrests did not change over the study period. This would indicate that where there is crime, there is also police activity addressing controlled substance use and sales, and that where there is more crime there is likely to be more police activity of this sort in these areas.

Along this line of thought is a common response to crime issues used by the NYPD. In the COMPSTAT arena of management the NYPD better integrated more facets of its operations (Silverman, 2001). This entailed closer cooperation amongst the various enforcement units in the NYPD. Under this method of management, when there would be more crime reported in a given precinct, the precinct would come under more scrutiny, and other units working in the area would be pressed into stepping up their efforts to bring crime under control. In this context, it would mean that as crime increased, the services of the Narcotics Division would be enlisted to help bring it back down. These services would likely come in the form of more arrests. The irony here is that more arrests did not translate into reducing crime.

Another possible explanation of the positive relationship between controlled substance arrest rate and crime rate might be found within the principles of environmental psychology. Environmental psychology is the study of behavior as it is

influenced by physical surroundings. (Taylor, 1987) Numerous studies have shown that the characteristics of neighborhoods can have influence over the way people feel and behave. (Gifford and Gallagher, 1985; MacDonald and Gifford; Gifford, 1993; Shaw and Gifford, 1994; Veitch, 1996; Taylor, 1997) This could account for the close relationship between controlled substance arrest rate and crime rate. The physical characteristics of certain precincts in Queens might signal to would-be criminals that it is okay to commit crime in those areas. The same signals that give credence to crime might also do so for drugs. Where crime occurs because it seems permissible might also influence people using and selling controlled substances. The conclusion cannot be made that is the same people committing the same offenses, but certainly that they are occurring in the same areas.

From a psychosocial perspective the close relationship between controlled substance arrest rate and crime rate makes sense. Controlled substances are highly addictive. (ONDCP, 2004) This desire for drugs among habitual users can be an extraordinarily powerful one and may be highly resistant to change (Boyum and Kleiman 1995). Also, the drug use itself may induce antisocial behavior such as the indifference to risk and willingness to deviate from the established norms (Boyum and Kleiman, pg. 301). Predictably, an addict who needs to obtain his drug to satisfy his addiction is influenced more by the location and availability of the drug than by the arrest practices of the police. Studies have shown that addict behavior is highly resistant to the retail price of drugs and police efforts that make the acquisition of drugs riskier. (Silverman and Spruill, 1977; Trebach and Inciardi, 1993) Essentially, the person addicted to controlled substance will not be deterred by arrest when trying to acquire drugs. The strength of the addiction is

more powerful than the deterrent effect of the criminal justice system. The findings of this study would indicate that addict behavior is not influenced by the risk of being arrested, and the addict repeatedly return to the locations where drugs are available. These locations are also places that have a high rate of crime.

This explanation fits nicely when also considering the antisocial behavior of the addict with respect to other criminal activity. Studies have shown that approximately 90 percent of the money made by a person addicted to heroin is used to purchase heroin. (Goldman, 1976; 1977; 1981) Furthermore, a Department of Justice study conducted in 1989 of convicted jail inmates showed that 39 percent of crack and cocaine users claimed to have committed their current offense to get money to buy drugs. (US Dept. of Justice, 1991) Taking these two studies in the context of the findings here and a better understanding of the addicted drug users habits emerge. It is evident that addicted drug users spend a large portion of their money on drugs and commit crime to obtain this money. It is also apparent that the addicted drug user's behavior is resistant to the risk of arrest. The antisocial behavior of these persons is manifest in criminal activity that is driven by their addiction. The crimes they commit, therefore, are likely to be in close proximity to where they get their drugs, and where they are more likely to get arrested for possessing those drugs. Fear of the police and the potential of arrest does not hold enough power over the addict to influence his behavior to avoid drugs and the locations where the drugs are available. This relationship between addiction, location, and arrest has important implications for the value of police tactics. It appears that arrest for controlled substances does not have the impact on changing addict behavior. The addict returns to the same location to "score" drugs, is more likely to commit crimes in that

same area to fund his habit, and more likely to get arrested in that area for possessing the illegal substance. This line of reasoning gives strength, not to the power of the arrest to change the drug addicted persons behavior, but to the need to control the location from where drugs are made available. The tactics employed by the police under the nuisance abatement laws to seize property being used to further the drug trade might have important consequences on influencing the availability of controlled substances. If the locations where controlled substances are sold can be eliminated, then the drug addicted person will not frequent these locations, and, therefore, they will not commit crimes in that area to feed their habit. The impact of nuisance abatement closings will be explored later in this chapter.

It can be concluded that crime rate and controlled substance arrest rate are significantly and positively related. As crime rate increases so too does controlled substance arrest rate. This finding contradicts conventional wisdom held by police officials that drug arrests reduce crime. It is also inconsistent with the mission, goals, and purpose of the Narcotics Initiatives deployed by the NYPD. This mission was to enforce drug laws aggressively with the intention that this would reduce serious crime in the community. This does not appear to be the case. The reality seems to be that drug addicted behavior is resistant to arrest, and that the more arrests that occur in a given location do not influence the crime rate, but indicate that a location has a greater incidence of drug activity. The addicted drug users commit crime in these areas to support their habits and are arrested by the police in proximity to the source of their supply. This is supported by the findings that controlled substance arrest rate and crime rate are positively related and that the rate of arrest for controlled substances did not change

over the study period, but crime significantly decreased at the same time. The above analysis is consistent with these findings and support several theories that explain addict behavior and community dynamics.

Tables 11 through 19 repeat the model used in the above analysis for different categories and classifications of crime rate. These various models explore the rate of controlled substance arrest and the rate of violent crime, property crime, murder, rape, robbery, felony assault, burglary, grand larceny, and grand larceny auto. The findings from these models are essentially the same ones reported above. Controlled substance arrest rate and crime rate are positively associated, regardless of the crime category. Table 20 summarizes the results of these models and shows significant relationships in several areas. The category of property crime, murder, robbery, burglary, and grand larceny auto are positively and significantly related to controlled substance arrest rate. These findings are noteworthy for several reasons. First, they support the conclusions drawn above controlled substance arrest rate, the behavior of addicts, and crime. In particular is the finding that property crime, not violent crime, is associated with controlled substance arrest. Addicts, driven by the desire to feed their habit, must be arrested, therefore, in the locations where they buy, sell, or use their controlled substances, and these locations are the same ones where they commit property crimes to generate the income to purchase these drugs. Examination of Table 20 indicates that the crimes of Burglary, and Grand Larceny Auto generate the strongest association with controlled substance arrest rate with t-values of 4.448 and 3.791 respectively. These two values drive the significance of the property crime category (comprised of burglary, grand larceny, and grand larceny auto) and demonstrate a very strong connection between

controlled substances and property crime. Presumably, this relationship is one where the addicted person is arrested for drug activity in the vicinity of the places other crime is committed to support this habit, and that arrests is not a strong enough deterrent against either using drugs, or committing other crimes.

In summary, this section of the discussion reports that crime rate and controlled substance arrest rate are significantly and positively related. This finding is generally a contradiction of conventional police wisdom that holds that more drug arrest will reduce other serious crime. While the precise nature of this relationship is beyond the scope of this study, several plausible explanations of this finding were advanced. Drug crime can be considered serious crime and the etiology and sociology of drug use might be considered similar to that of other crime categories. It would not be unusual to find more reports of burglary arrest in high crime areas, and for the same reasons it would not be unusual to find more drug arrests in high crime areas as well. Under this explanation the incidence of drugs, as determined by the rate of controlled substance arrest, is part of a bundle of crime that appear in the same time and place. Another plausible explanation is that the NYPD changed its operational approach to drug enforcement and crime. Where precincts would experience high levels of crime NYPD resources might have been brought to bear to enforce drug offenses. The result would produce a rise and fall in arrest activity that would mirror the crime rate. Furthermore, and most compelling, is the psychosocial dynamics of controlled substance use and sales. Under this perspective the deterrent value of the arrest is not sufficient to modify the behavior of the person addicted to controlled substances. Police activity in this regard, therefore, holds little power over the addict. As long as the urge exists and the location to buy drugs is present the two will

combine to produce a drug market. Arrests would do little to change the rate of crime because the benefit of using and selling the drug is greater than the cost of this activity.

The combination of these explanations likely contribute to the overall understanding of the positive and significant relationship between controlled substance arrest rate and crime rate during the period under study. For whatever reason, it is important to note that this relationship exists and it is different than conventional thinking in law enforcement circles regarding the utility of controlled substance arrests as they relate to crime. The discussion will now turn to the influence of marijuana arrest rate as it relates to the rate of crime.

The findings with regards to marijuana arrest rate and other serious crime paints a slightly different picture than the one described above with controlled substances. Once again, Tables 10 through 19 show these relationships, and the consolidation of these results is reported in Table 21. Succinctly stated, with the exception of murder, rape, and assault, marijuana arrest rate is significantly and **inversely** related to crime. All t-ratios reported from the models of marijuana and crime show a **negative** relationship. As the rate of marijuana arrests decrease, crime increases, and where this relationship is found the significance is reported at p-values of 0.001 or less; some of the strongest findings of this research. Turning to Table 21 indicates that the total crime coefficient for marijuana arrest rate is -1.922 ($t = -6.576$, $p < 0.0001$). For every decrease of one unit in the arrest rate for marijuana in an average month over the study period there is a 1.922 unit increase in the rate of crime. This finding is repeated for violent crime, property crime, robbery, burglary, grand larceny, and grand larceny auto. In fact, the t-ratio for robbery of -12.327

is the highest t-value reported in this study, and demonstrates an enormous inverse relationship between marijuana arrest rate and the crime of robbery. Explaining these relationships in the context of this research may not be as obvious as the findings suggest, but may be done so using the same constructs used in the understanding of the positive associations found between controlled substance arrest and crime.

Essentially, controlled substances, like heroin, cocaine, crack, etc., and marijuana are different drugs. Their pharmacology is different, their treatment under the law is different, and the sociology of their use is different (NIDA, 2002; ONDCP, 2004). It should not be surprising, therefore, that the relationship between the two classes of drugs and crime is different. It might come as a surprise, however, to police officials around the United States to find that the relationship between crime rate and arrest rate for controlled substances and marijuana is opposite one another, but taking into account the relevancy of the issues mentioned above and this difference dissipates.

In the first place, marijuana does not have the same strongly addictive qualities as controlled substances. While users of controlled substances often find themselves quickly caught up in the web of antisocial behavior caused by their addiction, marijuana users on the other hand can use the drug every day and go on to lead normal, productive lives. The self-destructive characteristics associated with heroin, crack, or other controlled substances are typically not found with marijuana use. Certainly, there are negative consequences of marijuana use (Boylard and Kleeman, 1995). Health concerns of marijuana use include lung, throat, and mouth disease, and there are social side-effects of apathy and malaise associated with long term or chronic usage (NIDA, 2002). The same behavior that controls persons addicted to controlled substances, however, is

generally not as strong among marijuana users or abusers. And for this reason it appears that arrests for marijuana can have a negative impact on the rate of crime. Where the arrest of an addict for controlled substance apparently does not dissuade them from returning to the same locations, presumably for the same reasons, the arrest of a person for marijuana, based on the evidence above, seemingly does. As the statistics in tables 10-22 show marijuana arrest rate is inversely and significantly related to crime.

Comparing the behavioral attributes of the typical marijuana user and typical controlled substance user might help interpreting these results. Although these behaviors are not universal towards each group, the “on-street” activities described here have certainly been observed. The typical marijuana user is, first and foremost, generally not addicted to the drug. Their behavior toward obtaining marijuana and their ability to participate in conventional social activities is, therefore, predictably different than the controlled substance user. An arrest for a marijuana offense might impinge on these conventional activities and carry a higher deterrent value when modifying behavior.

For example, Cohen (1999) describes the dynamics surrounding a marijuana arrest in New York City. He contends that the casual marijuana smoker arrested trying to buy drugs on the street corner might also be faced with the loss of income from not appearing at work, or shame from his family, or the expense of defending himself in court, or a host of collateral issues that the addict, already exhibiting antisocial behavior, might not be so concerned with. In this example, the arrest carries a higher relative deterrent value for the marijuana user, as opposed to the controlled substance addict (Cohen, 1999). Obviously, broad generalizations like this one cannot be used to explain the findings from the statistical analysis. A more qualitative approach is certainly required to better

understand the psychosocial dynamics of various illicit substance users. But the scenario described enough is common enough, and intuitive enough, to help illustrate the possible dynamics associated with the findings listed in tables 10-22. The arrest for marijuana might influence the behavior of the person arrested and possibly dissuade them from repeating it. This is consistent with the psychology of drug users and the predictable patterns of persons addicted, or not addicted, to certain drugs. The desire for marijuana, or at least the desire to obtain it from the same location, is less than the desire to avoid the negative consequences, both direct and indirect, of an arrest. With the cost of an arrest higher than the benefit associated with the use of marijuana, combined with the non-addictive quality of the drug, the arrest becomes a powerful motivator of behavior.

Cohen recounts the “absurd” policy employed by the NYPD where a “regular” citizen was arrested and spent two days in jail waiting to see a judge, for the incredulous offense of smoking a marijuana cigarette with a friend in a public park. The dynamics of this event reported by the NY Times illustrates the above discussion nicely. The “regular” guys had much to lose because of their arrest. They lost time and pay from work, and achieved social and personal scorn from the arrest and consequences relating to it. It would not be difficult to conclude, therefore, that these “regular” guys will probably not be returning to that park, or any other public place for that matter, to smoke their marijuana cigarettes. (Cohen, 1999) While they still might smoke marijuana, it will probably not be in the public eye. The non-public dimension of the change in behavior carries significant consequences. If they don’t, for argument sake, return to the park to smoke marijuana, and the police efforts in this same park, dissuade many others from returning to smoke marijuana, then the park becomes a place where people do not smoke

marijuana, it becomes a park – for kids, and parents, and others seeking recreation, not drug use.

The transformation from drug spot to recreation spot has important consequences on not only the character of that park, but the character of the neighborhood that the park is within. Restoring public places to their normal, conventional use, restores public control over these places and takes them from the marijuana users, in this example, and gives them back to the public. Again, using the principles of environmental psychology, changing the appearance of the physical qualities of an area has important influence over the behavior of persons using that area (Bursick and Grasmick, 1993; Taylor, 1997). Eliminating marijuana smokers and sellers from public spaces and restoring them to their intended purposes removes harmful substances from the public, and sends a signal to the environment that the community exerts control over these spaces. As the locations become “cleaner” from the removal of marijuana users the community steps-in and regains control of the space and restores it to its rightful purpose. Remove the disorder, therefore, and conventional activities return. When conventional activities return, disorder is displaced, and when this disorder is displaced other criminal activity is likely to be displaced as well (Skogan; 1990, Kelling and Coles; 1996; Kelling and Sousa; 2001). This implies that as the police reduce their efforts towards marijuana enforcement, then marijuana use becomes more prevalent. As marijuana use becomes more prevalent, areas take on a different quality. This quality is associated with a lack of communal controls and creates an environment that is susceptible to criminal activity crime increases, and vice versa.

It appears that the principles of the “broken windows” theory postulated by Wilson and Kelling in 1982, in the context of environmental psychology and marijuana use in Queens, NY during the study period in question seem to hold up. Attacking the use and sale of marijuana contributes to a decrease in crime. A plausible explanation of these findings, as discussed above, implicates the utility of the Wilson and Kelling thesis. The police might be effective in controlling crime, and that crime control is related to their efforts to control disorder, as defined as marijuana use and sales. These findings suggest, for marijuana arrest rate, that the police are influential in reducing crime.

The central purpose of this research was to explore the relationship between drug enforcement and serious crime. To do this drug enforcement was defined as controlled substance and marijuana arrests, and serious crime was defined as the seven Part I Index crimes reported by the NYPD to the FBI. Based upon the findings reported above the answer to this question is neither simple, nor obvious. In a nut shell, there is no universal answer to describe the relationship between drug enforcement and crime. The answer depends on the category of arrest, controlled substance or marijuana, and depends on the category of crime. Controlled substance arrest rate, for example, was found to be positively and significantly related to serious crime. This relationship existed independent of demographic attributes of a community that are commonly thought to hold influence over these variables (except population which required rate per 100,000 to be used). As arrest rate for controlled substances increased so did the increase in crime rate. If the conventional police wisdom held then arrests for controlled substances should have reduced the rate of crime. The war on drugs is built on this assumption. The NYPD

goes through great lengths to investigate, arrest, and prosecute offenders of the controlled substance laws, partly to eradicate the drug trade, and partly because it is believed that in doing so other crime can be controlled. This does not appear to be the case. This research points to other plausible explanations to account for this relationship. The psychology and sociology of controlled substance use and abuse are likely explanations, so is the shift in NYPD enforcement philosophy targeting locations and organizations, and so is the argument that drug crime is serious crime in and of itself. The scope of this work did not permit a thorough exploration of these explanations, but the opportunity should be taken to dig deeper and get a better understanding the seemingly contradictory findings reported here. For all categories of crime used in this report there was a positive relationship to controlled substance arrest rate, with many of these statistically significant. The significance reported here is far greater than statistics. These findings call into question the utility of aggressive and indiscriminant drug arrest policies without a focused and coordinated approach toward eliminating locations and organizations, and modifying addict behavior thorough methods other than arrest.

The experience with marijuana arrest, however, paints a different picture. It appears that marijuana arrest rate was the ingredient that is related to lower crime rate. The findings of this research show that marijuana arrest rate and crime rate are inversely related and this relationship is statistically significant. Furthermore, several categories and classifications of crime were also found to be inversely and significantly related. Robbery rate produced the strongest inverse relationship with marijuana arrest rate of any variables used in this study. The findings here are clear: marijuana arrest is inversely related to crime. The more arrests that are effected in a given precinct the lower the

crime rate will be. The models also showed that there was not a significant variation of this relationship between precincts, meaning that this dynamic likely occurred in all of the precincts under examination. How can such different results happen? The answer lies in the psychology and sociology of controlled substance and marijuana activity. The drugs are different, the people that use them are different, the nature of the acquisition different, the pharmacological effects different, and the response of the police different. The study showed that marijuana arrest rate increased significantly while the controlled substance arrest rate did not. Perhaps the police understood the role of marijuana arrest in crime reduction, or more likely, marijuana use and sales was the more prevalent, more visible, and easier to make. Regardless of the reason, the findings here point strongly to a positive role in the use of marijuana enforcement in order to decrease other serious crime.

These are findings that need to be given serious consideration when designing or implementing drug arrest policies for law enforcement. Investigation into the illicit drug trade and enforcement of drug statutes are important missions for law enforcement. If the goal is other than to reduce the incidence of drug activity and use the enforcement to reduce other collateral crime, then this research suggests that marijuana enforcement be put at the top of the list of those efforts. Controlled substance enforcement efforts should be limited toward eradicating the organizations and locations, but marijuana enforcement can be a useful tool in addressing other serious crime. With these findings in mind the discussion can turn to the role of Nuisance Abatement and crime, and the changing role of this tactic with the deployment of the Narcotics Initiatives in Queens.

Nuisance Abatement

One of the goals of this research was to explore the effectiveness of the NYPD's deployment of enforcement operations known as Narcotics Initiatives. It became apparent to NYPD Commanders that simply making arrests, without a focus on specific persons and places, would not eliminate drugs in New York neighborhoods (McCarthy interview, 2004). This specific tactic of focused arrests was advanced as a plausible reason why no observable increase in the controlled substance arrest rate was associated with the deployment of the two Initiatives in Queens – namely, arrests were focused on specific objectives, thus requiring less of them to accomplish the same goals. One of the other stated tactics employed by the Narcotics Initiatives was the use of civil injunctions to seize locations used in the drug trade: Nuisance Abatement. Nuisance Abatement (NA) quickly became an integral part of the narcotics enforcement strategy, and was used as a tool to eliminate drugs, and presumably crime. This next section deals with the experience of the NYPD during the study period in Queens and the use of Nuisance Abatement.

Tables 27 through 40 report the relationship between NA and several questions under examination. Table 27 begins with the change in the number of NA conducted during the study period. According to the statistics provided in Table 27, the average precinct in Queens during the study period experienced a 0.013 increase in the number of NA in the average month. This finding is significant with a t-ratio = 4.097 and a p-value <0.01. Furthermore, the bottom panel of table 27 indicates that the change in the number of NA conducted in each precinct varies significantly during the study period. The significant u_1 value can be interpreted as different precincts having different experiences

when it came to NA. Some were likely to experience large increases some remained constant, while others may have decreased. Examination of the raw data in this regard confirms this assertion. Precincts benefiting from the Narcotics Initiatives appear to have increased NA sharply, and other non-Initiative precincts appear to increase over the duration of the study, but not as sharp. This finding will be clarified greater in the next section discussing the effect of the Initiatives' deployment. Before beginning that discussion it is important to conclude that: a) NA increased significantly during the study period; and, b) precincts had different experiences with regard to the scope of this increase.

Tables 28 and 29 explore what appeared to be a relationship between two demographic variables and NA. The initial exploratory analysis performed in conjunction with the unconditional model of NA over time indicated that MINORITY and NONHSGRAD level-2 variables appeared to be related to NA. In order to properly understand the change in NA over time, therefore, it would become necessary to account for these level-2 variables when exploring NA at level-1. After the exploratory analysis revealed a potential relationship, MINORITY and NONHSGRAD were entered into the model at level-2. As the statistics from table 29 indicate, once these variables were allowed into the model to determine their influence on NA, it turns out that there is a non-significant relationship between percentage of minority residents, percentage of persons without High School, and the number of NA closings in a given precinct.

The remaining tables that cover NA do so in the context of crime rate. Table 40 is a consolidated report of the relationship between NA and different categories of crime and it shows NA is strongly, and inversely, related to almost all categories. Turning first

to Table 30 and the relationship between NA and crime rate can be understood. The statistics from Table 30 indicate that in the average precinct in Queens over the course of the study period for every one more NA closing there will be a corresponding decrease of 12.477 in the crime rate for serious crime as defined in this research. This finding is significant with a t-ratio = -8.563 and a p-value <0.001. As Table 40 shows, this significant inverse relationship is also found for violent crime, property crime, robbery, burglary, grand larceny, and grand larceny auto. The bottom half of Table 30 indicates that the rate of change in NA closings in Queens' precincts during the study period was relatively stable. The X^2 statistic for u_1 , or the rate of change of NA at level-1, is not significant. This means that little variation exists among the precinct average number of NA closings, or that the variance among precincts is not significant and they all experienced a similar rate of change in NA.

There are two important points to highlight from this information. First is that the variance of NA closings between precincts was not significant and they all experienced similar changes in the level of NA closings. Second, it is important to point out that every category of property crime examined in this research is very strongly, and inversely, related to NA closings. There has already been discussion regarding the positive and significant relationship between controlled substance arrest rate and crime rate. The interpretation of that relationship led to the conclusion that "addicts" are more influenced by the desire to obtain the drug than by the deterrent value of being arrested by the police, and that crimes are committed in the vicinity of the drug purchase. This would lead to a situation where crime and controlled substance use and sales were occurring in the same or proximate locations. If, therefore, the nature of controlled substance usage is location

sensitive it would be logical to conclude that when locations are neutralized or eliminated, then controlled substance activity in these areas, as well as the crime committed to support this activity, would be neutralized or eliminated as well. The findings described above certainly point to this conclusion. The property crimes of burglary, grand larceny, and grand larceny auto are strongly and inversely related to NA closings. Within this context it is possible to say that because crime rate and arrest rate for controlled substances go hand-in-hand, and NA is strongly related to property crime, that closing locations prone toward drug activity is a viable method of reducing property crime that is, in all likelihood, being committed to support the drug activity in the first place. This implies, in simple terms, that closing locations eliminates the spot from which controlled substance activity takes place. With the place eliminated users and sellers do not return. When the users and sellers don't return, they also don't commit property crimes in the vicinity to support their drug use and conduct their trade. It has been shown that controlled substance arrest rate and crime rate are related indicating that arrest for drugs does not sufficiently deter drug users and sellers from this activity. This analysis demonstrates that it is the location that has greater influence over drug activity. Eliminate the location, and you can change the behavior of the user and seller because they have to go someplace else, or stop altogether. When they go someplace else, or stop all together, the crimes committed to support the drug market move, or no longer occur. So it is not the individual behavior being modified through arrest, but the community behavior being modified by exerting influence over the locations used for drug activity. Control the location and the drug market moves or terminates altogether.

A central component of the “Initiative concept,” namely controlling locations, appears to have beneficial effects on reducing crime in targeted areas. Not only is this conclusion consistent with the data, it is also intuitive that closing drug locations can decrease crime. Recalling the anecdote used earlier about “the rock” on the lower east side of Manhattan (McCarthy, 2004), and it is clear to see how this relationship takes place. The number of arrests made on this block did little to stem the tide of crime, and even less to satisfy the residents of the block. When the Barber Shop supplying the drugs was seized pursuant to a Nuisance Abatement closing, the drug activity on the block dried up. There was no longer a reason for addicts to go to East 11th street to buy drugs, the drug supply was eliminated. Since there was no longer a reason to go to “the rock” to obtain drugs, it was probable that property crimes committed by those very addicts to support their habit would not be committed in the vicinity. Closing locations under Nuisance Abatement statutes appears to have a valuable role in not only the elimination of drugs from neighborhood locations, but also in eliminating crimes committed in the furtherance of that drug activity.

Another important line of discussion with regard to NA is the change associated with the deployment of the Narcotics Initiatives. Similar to the examination conducted with arrest rate category, and examination can be made using NA as the dependent variable and applying HLM techniques to see the change, if any, in NA associated with the deployment of the Initiatives. Table 41 summarizes this information. According to table 41, it appears that the deployment of the Narcotics Initiatives in Queens were associated with a significant and positive change in the number of NA in Queens’ precincts. The statistics in table 41 shows, what are termed “Initiative Effects,” γ_{21} and

γ_{31} , a positive and significant relationship between Initiative deployment and NA. This means that there was a significant increase in the number of NA closings in precincts benefiting from the deployment of the Narcotics Initiatives, after the Initiatives came into existence. Also, there appears to be a displacement effect associated with the deployment as well, but an inverse relationship, and only for QNNI. This can be interpreted from the statistics listed in table 41 termed “Displacement Effect,” and γ_{30} . This statistic indicates a significant decrease in the number of NA closings in non-Initiative precincts after the deployment of QNNI. The SEQI deployment did not impact on non-SEQI precincts as the γ_{20} statistic is non-significant.

These statistics could signify two things. First there could have been a change in policy regarding Nuisance Abatement in the NYPD during this time. The policies, strategies, and tactics governing NA, however, existed prior to the deployment of SEQI and QNNI, and had long been considered useful in combating crime. The COMPSTAT process began in the NYPD in 1994, almost four years before these Initiatives began, so it is not a strong possibility that NYPD strategy suddenly changed during this time. The other, more likely explanation, is that the strategies of the Narcotics Division in Queens changed after the deployment of the Initiatives. As was previously discussed, the Narcotics Initiatives were a sub-section of the Narcotics Division’s operation in Queens. The commander of narcotics enforcement in Queens was in charge of both Initiative, and non-Initiative operations. It seems likely that the increase in NA closings after the Initiatives were deployed stemmed from some form of competition or rivalry within Queens Narcotics. Since NA closing were seen as an integral part of the “Initiative concept,” as described by Deputy Chief McCarthy (Interview, 2004), it seems natural that

enforcement operations in both Initiative and non-Initiative precincts would adopt a more aggressive approach to this tactics once the Initiatives came into being. While the NA tactic had been employed within the NYPD before SEQI and QNNI commenced, it would, with their deployment, become the centerpiece of not just SEQI and QNNI, but all narcotics enforcement in the borough. It stands to reason, therefore, that the deployment of the Initiatives in Queens would create an atmosphere that put greater emphasis on the use of NA, regardless of whether or not the particular precinct was part of an Initiative or not.

This also makes sense when put into context with a stable controlled substance arrest rate. Even though the Initiatives benefited from a dramatic increase in personnel, arrest rate for controlled substances did not significantly change. This finding was present in both Initiative and non-Initiative precincts. The number of NA closings, however, did change. It appears, therefore, that the focus of operations after the Initiatives were deployed was not necessarily on the rate of controlled substance arrest, but on the number of NA closings. This emphasis spilled over, or more appropriately, was blurred between both Initiative and non-Initiative operations after the QNNI deployment. This underscores the point that it was not necessarily the quantity of controlled substance arrests, but the quality, and quality in this sense means ones useful in achieving NA closings. In light of this discussion it is appropriate to turn to the experience of crime rate and arrest rate with the deployment of the Initiatives in Queens during the study period in question.

In summary, NA closings were shown to be significantly related with the rate of crime. Seven of the ten categories/classifications of crime rate were shown to be

significantly related to NA closings. In fact for every one additional NA closing achieved in a given month will lead to more than 12 unit decrease in the rate of crime in that precinct. Additionally, the category of property crime reported a t-ratio of -10.721, one of the strongest relationships in the study. Property crime rate and NA closing, therefore, are very strongly related; as NA closings increase property crime rate decreases. Put this in context with the behavior of persons involved in drug activity and it is easy to see that exerting control of locations can have an enormous impact over the rate of crime, in particular property crime. These are important findings. It is intuitive to residents of blocks that are plagued by drugs that if you remove the drug spot from the block the drugs go away. Ignore the location, however, and concentrate on the users and sellers, and you do little more than shovel the sand against the tide. The example of “the rock” is a fitting example to describe this dynamic. It was only when the barbershop was closed when the residents of E 11th street got relief from the drug activity on their block. Not only do these findings support common-sense notions of drug market activity but they also lend strong support to the philosophy employed by the NYPD to control locations. Although this concept was part of the foundation of the Narcotics Initiatives deployed by the NYPD, it also took root in other non-Initiative precincts as well. The efforts do not appear to have been wasted. The findings here confirm that if locations can be closed with NA because of drugs there can be a significant reduction in the crime rate in that precinct. Community intuition and enforcement philosophies are confirmed in this regard. NA closings are an important tool in both the control of drug locations and the elimination of other crime.

Initiative Effect

Did the Narcotics Initiatives have an impact on crime; were they successful? We have already seen that the rate of arrests for controlled substances did not change with the deployment of either SEQI or QNNI. Also, a significant increase in the marijuana arrest rate was only associated with the deployment of the SEQI and not the QNNI.

Furthermore, it has been shown that NA closings increased in the Initiative areas, but there appeared to be a displacement effect creating significant increases in NA closings in non-Initiative precincts as well. These results appear to offer a mixed evaluation of the Initiatives and will be used as a starting point to explore the change, if any, in the rate of crime during these same periods. Table 24 summarizes the Initiatives' effect on crime rate.

Once again, according to table 24, there is a mixed effect. It appears that with the deployment of the SEQI crime rate decreased significantly in the precincts benefiting from this deployment. The statistic γ_{00} from table 24 has a coefficient of 190.03. This indicates that when the SEQI began in November 1997 the average precinct in Queens was logging a crime rate of 190 crimes per 100,000 residents per month. After the deployment of SEQI this rate decreased by almost 30 per month. The statistic γ_{21} in table 24 has a coefficient of -28.06, with a t-ratio = -2.70, which has a p-value = 0.018. The γ_{21} represents the presence of the Initiative at level-1; coded {0,1}. The level-1 variable PROG1 represented the presence or absence of the SEQI. In months when the Initiative was not deployed PROG1 was coded "0." When the SEQI began the value of the level-1 variable PROG1 took on a value of 1, and continued with a value of 1 through the remainder of the data set. Interpretation of the statistic γ_{21} , which has a value of -28.06,

means that on average during the months that SEQI was being deployed there were 28.06 less crimes per 100,000 residents in those precincts benefiting from SEQI. The bottom panel of table 24 shows that the u_2 value was also significant, which indicates that there was little variation of this effect among SEQI precincts. The combination of the two values indicate that the crime rate decrease observed after the deployment of SEQI was significant and did not vary between the three precincts covered by that Initiative. So with all other things equal, the time period after the deployment of SEQI experienced an overall average decrease in crime rate of 28 crimes per 100,000 residents per month, which is significant, and did not vary significantly between SEQI precincts.

Examination of the value for γ_{20} also indicates that crime was not displaced into other non-SEQI precincts after the SEQI deployment. At the start of SEQI at level-1, the TIME variable equals 1 (increased by 1 in successive months), and the PROG1 variable equal 1 as well. At level-2 non-SEQI precincts are valued as “0”. When these values are substituted into the equations listed on table 24 the zero values cancel out all other coefficients leaving only γ_{20} . If γ_{20} produced a significant result then an inference could be made that there was a significant change in crime rate in non-SEQI precincts during the time when SEQI was deployed. Looking at table 24 we see that the value of γ_{20} is non-significant, thus indicating that crime did not change significantly in non-SEQI precincts after the time when SEQI was deployed, all other things being equal. In summary, the statistics in table 24 show that crime rate decreased in SEQI precincts during the time of SEQI deployment, but did not change significantly in other, non-SEQI precincts, after this deployment.

It is also possible to examine the impact of the QNNI on crime rate as well. Continuing with table 24, γ_{31} , the Initiative effect for QNNI, is non-significant. This indicates that the rate of crime in QNNI commands did not change after the deployment of QNNI. However, the displacement effect of QNNI, indicated by the statistic γ_{30} , appears to be significant with an increase in crime rate on average of 18.7 per month, which has a $t=3.21$, $p=0.007$. The combination of these two results shows that the deployment of QNNI had a non-significant impact on crime rate in QNNI precincts, and crime increased significantly in non-QNNI precincts. Or perhaps these facts may be stated differently. Crime was on the rise in Queens, but the deployment of the QNNI was successful in keeping crime stable, while other non-QNNI precincts experienced a crime rate increase. Regardless of the formulation of this statement it is accurate to assert that crime rate remained stable in QNNI precincts after the deployment of QNNI, but increased in other precincts that did not benefit from such a deployment.

It is interesting to note that the deployment of QNNI, with the exception of NA, seemingly had no impact on any of the variables under examination in this study. Marijuana arrest rate, controlled substance arrest rate, and crime rate did not change significantly with the deployment of QNNI. There are many possible explanations for these findings. The QNNI was deployed in February 1999, almost five years after the creation of COMPSTAT. According to table 2, crime rate decreased over time during the period under observation and perhaps had already decreased to a large extent before the QNNI was deployed. Arguably, after almost five years of sustained attention on crime rate, the impact of additional resources directed at drug enforcement could have been too late. This argument is similar to the one made previously explaining the non-significant

change in arrest rate after QNNI. The crime rate could have already been reduced to levels that made it difficult for an enforcement operation of this type to produce significant results. Also, there may not have been enough “drug activity” to permit an operation of this scope to have an impact. If the demand for enforcement is already being met, then additional resources do little to improve the intended outcome of crime reduction. Lastly, the attitudes and managerial style of QNNI commanders may have been different than the ones running SEQL, thus different management might have produced different results. Continuing further with anyone of these explanations is pure speculation at this point. There are also a host of other arguments that could be made to explain the non-impact of QNNI, all of which are beyond the scope of research. It is sufficient to conclude that the impact of QNNI, regarding controlled substance arrest rate, marijuana arrest rate and crime rate, did not materialize. The resources dedicated by the NYPD toward these goals appear not to have been productive and decreases in crime rate observed in the QNNI precincts in this study period either were recorded before the QNNI deployment or must be attributed to other factors outside the scope of this research. On the other hand, these resources might have been well spent if the result was to keep a crime rate increase in-check, while other places in the borough witnessed an increase in crime.

In summary, the below table graphically describes the impact that the Narcotics Initiatives had in Queens during the study period with regard to crime rate, arrest rate for controlled substance and marijuana, and nuisance abatement closings.

Impact of Narcotics Initiatives

<u>Initiative</u>	<u>Crime Rate</u>	<u>Controlled Substance Arrest Rate</u>	<u>Marijuana Arrest Rate</u>	<u>Nuisance Abatement Closings</u>
SEI	Y* (-)	N	Y** (+)	Y** (+)
SEI Displacement	N	N	N	N
QNNI	N	N	N	Y* (+)
QNNI Displacement	Y**(+)	N	N	Y** (-)

Table # 48

**Significant at the $p < 0.01$ level

* Significant at the $p < 0.05$ level

Table 48 answers the question: was there a significant change in the dependent variable that coincided with the deployment of the Narcotics Initiative? If there was a significant change a “Y” appears with an “*” showing the level of significance, and a “(+)” or an “(-)” indicating the direction of that relationship. Table 48 reports that crime rate changed significantly only after the deployment of the SEQI, and not after QNNI. Arrest rate for controlled substances did not change significantly with either Initiative. Arrest rate for marijuana changed significantly when the SEQI was deployed. Arrest rate for marijuana did not change significantly after QNNI was deployed. Nuisance Abatement closings significantly changed with the deployment of the Initiatives and this change was also experienced in other non-QNNI precinct, but not in other non-SEQI precincts. After the deployment of both SEQI and QNNI there was a significant and positive increase in NA closings in a Initiative precincts in Queens, but either a stable or decreasing level of NA closings in other precincts in the county.

It does not appear that the NYPD got its moneys worth with the staffing and deployment, and impact of the Narcotics Initiatives, particularly the QNNI. In fact after the deployment of QNNI there were no significant changes in the indicators of crime and arrest rate, and the number of NA closings increased more significantly in non-QNNI precincts. It can be concluded that the QNNI was not successful. It did not accomplish the stated goal of contributing to crime reduction in the targeted precincts, nor was there any significant change in arrest practices. The only redeeming assessment of QNNI can be found in the stable crime rate. The above statistics indicate that crime rate remained unchanged in QNNI precincts after QNNI was deployed, but increased elsewhere. Perhaps QNNI was instrumental in stemming a growing increase in crime that would

have otherwise hit these precincts had it not been for the Initiative's deployment.

History, however, has demonstrated that the crime rate in Queens fell even after the study period, and continues to fall at the time of this writing. (NYPD COMPSTAT 3/21/2005)

If the QNNI was actually stemming the rising tide of crime then crime data would currently reflect increases in crime, not further reductions.

The SEQI is a different story. Although controlled substance arrest rate remained unchanged, all other variables presumed to be impacted by SEQI were in fact impacted. Marijuana arrest rate increased, crime rate decreased – without displacement, and NA closings increased – to a greater degree than non-SEQI precincts. By these accounts, SEQI can be considered a success. The SEQI achieved what it was designed for: crime reduction and increased enforcement.

Timing and management could account for the difference in effectiveness. The QNNI began 15 months after SEQI. Was crime reduced to levels so low that a narcotics deployment of this scope was unnecessary? Examination of the crime statistics published by the NYPD, however, question this assumption. In the years since the close of this study period (December 2000), crime continued to fall in the QNNI precincts, as well as non-QNNI precincts. (NYPD COMPSTAT, 12/31/2004) In fact crime is sharply lower in precincts throughout Queens in the present compared to 4 years ago. If QNNI was deployed during the time of leveling crime rates, then the crime rate would have remained “bottomed-out,” or possibly increased since then, and not continued to fall as the NYPD data indicate. The fact that crime continued to decrease demonstrates that the timing of QNNI was appropriate, there were still gains to be made in the terms of

reducing crime, unfortunately for the NYPD, QNNI was not a factor in contributing to those reductions.

The management and supervision of the two Initiatives can also be considered as a factor. The first SEQI commander was Deputy Chief Denis McCarthy. McCarthy, based upon his interview (McCarthy, 2004), was part of the development of the “Initiative Concept” on the lower east side of Manhattan in 1995. Placement of him as the first SEQI commander may have had implications for the success of that Initiative. McCarthy clearly understood the importance on controlling locations, eliminating gangs, and using arrests, not as an end result, but as the beginning of a process by which gangs are identified, and locations were put out of business. Perhaps McCarthy understood the concept better and was able to implement these ideas in a more realistic and effective fashion. The statistics speak for themselves. With the exception of controlled substance arrest rate, the deployment of the SEQI was associated with significant changes in crime, arrest and nuisance abatement. Displacement effects associated with SEQI are not associated with crime rate, but with increased levels of enforcement – perhaps a good thing as far as a police department would be concerned. Certainly management can be considered a contributing factor to the success of these two Initiatives, and that timing likely is not. The facts remain that there was a difference associated with the deployment of SEQI and QNNI in Queens: the former was effective and the latter was not.

Another dimension to explore with respect to the Narcotics Initiatives success is the level of citizen satisfaction, or the converse, level of citizen complaints against the police. It is possible, using similar models used to explore crime, arrest, and NA, to

examine citizen complaints against the police, and the timing of those complaints associated with the deployment of these Initiatives.

CCRB

CCRB stands for Civilian Complaint Review Board. The CCRB is an independent agency in New York City responsible for lodging and investigating complaints against the police for unnecessary/excessive force, abuse of authority, discourtesy, and ethnic slurs made by the police against the public (CCRB, 2004). It is possible, that with a build up of enforcement personnel to combat drugs in Queens there might also be an increase in the number of complaints made by the public against the police. If the police enforce the drug laws aggressively, and do so inappropriately, then a rise in complaints against the police could occur. Before that specific question is explored, however, it is useful to put the level of civilian complaints (CCRB) into context with other factors. Like previous analyses, CCRB will be examined with its relationship to crime, arrest, and other demographic characteristics used in this research. It will also be explored with the timing of the two Initiatives in Queens, and the combination of these finding will be used to draw conclusions and inferences about CCRB and police enforcement activity.

The Civilian Complaint Review Board was established as an independent City Agency in 1993 after contentious public debate. (CCRB 2004) Previously, the CCRB acted as a panel that reviewed investigations of civilian complaints by the NYPD. The Civilian Complaint Investigation Bureau CCIB was part of the Police Department since 1965. (Cannato 2001) In the early 1990s the belief was that the process needed to be

removed from the internal operation of the NYPD and be placed outside of that agency. The move was thought to provide a more objective, independent, and impartial adjudication of complaints made by the public against the police. The CCRB only investigates complaints of NYPD police officer misconduct, and only certain types of misconduct. It will only accept complaints of excessive or unnecessary force, abuses of authority, discourtesy, and offensive language allegations. (CCRB 2004) Any other types of complaints are referred to the NYPD and any complaints against other non-NYPD police or peace officers are referred to that agency. The CCRB publishes an annual report about its operations, and from time to time will analyze certain police tactics that involve civilian complaints or are sensitive in nature. (see 1997 report on Pepper Spray, 1998 report on Hollow Point Bullets, etc.) Once a civilian lodges a complaint with the CCRB an investigation is conducted. That investigation can be substantiated, unsubstantiated, unfounded, or officer exonerated. Substantiated cases are then referred back to the NYPD for disciplinary action. All other determinations are filed and become part of an officer's permanent personnel record. This bifurcated process of separate investigation and prosecution has led to contentious debate, sometimes public, about the efficiency, effectiveness, and equity of the system (CCRB 2004). Neither side seems to be completely satisfied with the current system. The last attempt to improve the system was by the Giuliani administration in 2001 when he and Police Commissioner Kerik attempt to shift the prosecutorial burden of bring substantiated CCRB complaints before an administrative trials judge from the NYPD onto the CCRB. (Giuliani, 2001) The police employee unions, however, banded together in the courts to block this move and maintained the status quo. (The Chief Leader, 2/9/2001)

The CCRB maintains statistical information about complaints much in the same manner as the NYPD maintains information about crime and enforcement. Monthly counts, by precinct, of civilian complaints are kept and analyzed. The CCRB also uses the “precinct” as the basic unit of analysis. So if an officer from the Narcotics Division assigned to the SEQI, was working within the confines of the 103rd Precinct, for example, received a civilian complaint, the CCRB would record that complaint under the monthly tabulation for the 103rd Precinct. This system of classification makes it possible, therefore, to compare precinct to precinct over time and still capture the impact with regards to civilian complaints, even if the citizen was lodging a complaint against an officer not assigned to the precinct of record. It is also important to note that the classification of CCRB complaints remained the same over the duration of the study period, and employed the identical method of lodging and recording complaints. Continuing with the above example, therefore, would allow for conclusions about the level of civilian complaints lodged in Queens during the study period. It would also be possible to see the change, if any, in the number of complaints lodged in the SEQI and QNNI precincts after the deployment of these Initiatives. This examination would further permit the evaluation of the Narcotics Initiatives in Queens by better understanding the impact of citizen dissatisfaction with the police as recorded by the CCRB after these Initiatives were deployed. Similarly, as with other elements of this research, it is possible to examine CCRB complaints within the context of the demographic variables used, and the change, if any, of CCRB complaints over time, and the relationship CCRB complaints have, if any, to crime rate and rate of arrest for controlled substances and marijuana. The combination of these analyses will permit an understanding of the dynamics of CCRB in

relation to police operations in general and the impact of the SEQI and QNNI in particular.

Table 43 reports the change in reported CCRB complaints over time. According to the statistics presented in this table, CCRB decreased significantly over the study period. The coefficient for time is -0.025, with a t-ratio = -3.932, which is significant at $p=0.002$. This indicates that with each successive month during the study period there was a decrease of 0.025 CCRB complaints. It would take 40 months for the average precinct in Queens to drop one complaint. Although this decrease is relatively small, representing a decrease of less than two complaints in the average precinct during the time under examination, it is significant. It can be concluded, therefore, that the reports of CCRB complaints against the police decreased in Queens between 1995 and 2001.

Table 42 reports the relationship between CCRB complaints and crime rate. According to table 42, CCRB and crime rate are positively and significantly related. The coefficient for crime rate is 0.007 with a t-ratio = 3.643, which is significant at the $p=0.003$. This indicates that for every additional unit in the rate of crime there will be a 0.007 increase in the number of CCRBs reported in the precinct. This is intuitive in that in places where there are greater rates of crime there are likely to be more police – citizen interaction. This interaction will also likely be both positive and negative, with the negative aspects generating more complaints against the police. In precincts in Queens where crime rate is higher, reported CCRB complaints will also be higher. It is also helpful to put this information in context with the results provided in table 43. Table 43 indicates that the level of reported CCRB complaints decreased over the course of the study period. With the understanding that reported CCRB is positively and significantly

related to crime rate this makes sense. Crime rate decreased in Queens over time. Since CCRB complaints are related to crime rate, then a decrease in one should also result in a decrease in the other. That relationship has been demonstrated here, and is consistent with the data presented above. Crime rate and CCRB complaints are related; as crime rate decreased during the study period, so did CCRB complaints. The crime-time-CCRB relationship is clear, consistent throughout the study, and according to the tables above, significant.

The information presented in tables 42 and 43 reports the change in CCRB as it relates to crime rate and over time. Within these models it is possible to explore the strength of the demographic variables used throughout this study. Similar to the models exploring the crime rate, arrest rate, and nuisance abatement closings, level-2 information can be used in the models for CCRB complaints to determine the relative importance of these characteristics of the precincts in Queens. To recap, the variables used at level-2 were: population density (POPDENS); percentage of residents on public assistance (PUBASST); percentage of persons below the poverty level (POVERTY); percentage of unemployed men aged 18-24 (UNEMPMEN); the median income (MEDINC); the percentage of persons not having a High School education (NONHSGRAD); the percentage of minority residents (MINOR); and the percentage change in racial make-up of the community district (CDCHANGE). These variables were included in a level-2 exploratory analysis in HLM with the models for CCRB over time and table 44 reports the findings. According to table 44, the only level-2 variable that is related to CCRB is MINOR. Level-2 MINOR has a t-value of 3.223, which is significant at the $p < 0.01$, and must be included in any models exploring CCRB. With this information in mind, the

model used to obtain the statistics in table 42 was “re-modeled” incorporating the influence of the level-2 variable MINOR on the reported number of CCRB complaints.

Table 45 reports the statistics obtained from the model including MINOR at level-2. It is shown that MINOR in fact has a positive and significant relationship to the number of CCRBs reported in a given precinct. According to table 45, MINOR has a coefficient of 2.513 and a t-ratio = 3.156, which is significant at $p=0.008$. Since MINOR at level-2 was reported as a percentage this coefficient requires some interpretation. The coefficient of 2.513 indicates that when MINOR is valued at 1 then there will be 2.513 more CCRBs in the average Queens precinct during the study period. When MINOR is valued at 1 it means that 100 percent of the precincts’ residents are in a minority group. It is more useful in understanding this coefficient, then, in different terms. Dividing the coefficient by 100 gives a more meaningful result: for every increase in one percentage point of minority residents in a given precinct, reported CCRBs are likely to rise by 0.0253 in the average month. Incorporating the time variable adds power to this interpretation. At time=0, when the SEQI began, and assuming minority=0, the average Queens precinct, according to table 45, would have recorded 0.88, or just less than 1, CCRBs in the average month. As time progresses forward that number would decrease significantly by 0.025 per month. For every increase in 1 percentage of minority residents the reported number of CCRBs will increase by 0.02513 in the average month. In this model both time and minority residential percentage are significant, but work in opposite directions. As time progresses CCRBs decrease, and as minority residential percentage increases, CCRB complaints increase. Communities with greater percentages

of minority residents, therefore, will experience greater levels of reported CCRBs, all other things being equal.

It is important to examine the CCRB-MINOR relationship with other variables in this study. It has already been shown that CCRB complaints are related to the crime rate, and that CCRBs have decreased over time. Table 47 reports the relationship of CCRB complaints and the number of Nuisance Abatement closings, the arrest rate for controlled substances, and the arrest rate for marijuana per month in a given precinct. The statistics in table 47 show that controlled substance arrest rate is significantly related to CCRB with a coefficient of 0.011, a t-ratio=2.915, and a p-value=0.011. This indicates that for every one unit increase in the arrest rate for controlled substances there will be a significant increase of 0.011 CCRB complaints. The CCRB-Marijuana relationship works in the opposite direction. Table 47 shows that arrest rate for marijuana is significantly and inversely related to CCRBs. The model computed a coefficient of -0.011, with a t-ratio=-3.733, and a p-value=0.002. So for every one unit increase in the arrest rate for marijuana CCRB complaints will decrease by 0.011.

Table 49 below is a snapshot of the various relationships between reported CCRB complaints and other variables in this study. It is useful to present these relationships graphically so that they may be more easily deciphered.

Relationships Between CCRB and Other Variables

	CRIME100	TIME	MINOR	NA	CS100	MARIJ100
CCRB	***	**	***	None	+	**

Table # 49

** Significant at the $p < 0.01$ level

*Significant at the $p < 0.05$ level

Table 49 shows that as crime rate increases so does CCRB, as the percentage of minority residents increases so does CCRB, and as the rate of controlled substance arrests increases so does CCRB, but as the rate of marijuana arrests increase CCRB decreases, and as time progresses the number of CCRB complaints also decreases.

These are interesting observations in light of other findings in this research. It has already been shown that the percentage of minority residents is not associated with crime rate and arrest rate for drugs, but is strongly related to CCRB. It was just shown that CCRB is related to crime rate, but both of these decreased during the study period. Furthermore, as CCRB is related to drug arrest rate, it is shown that CCRB and controlled substance arrest rate are related, but controlled substance arrest rate did not change significantly during the study period. Also, marijuana arrest rate increased significantly, but this rate is inversely related to CCRB complaints. Therefore, if controlled substance arrest rate and crime rate, the variables that are positively related to CCRB, are either stable or decreasing, and marijuana arrest rate, the variable inversely related to CCRB, is increasing, the impact of minority resident percentage becomes critical. With the other variables either canceling each other out or contributing to reductions in CCRBs, the only meaningful “driver” left of increasing CCRB complaints is the percentage of minority residents in a precinct. This highlights an important relationship between minority residential percentage and CCRB. It is not necessarily the rate of crime that generates citizen complaints, or the rate of arrests for drug offenses. More influential in the level of reported CCRB complaints is the percentage of minority residents. This finding has important considerations for the relationship between the police and minority communities. If it is not the crime rate because it is decreasing, and all the consequences

of having a higher crime rate, and if it is not the higher rate of drug arrest because it is either stable or inversely related to CCRB, then something else must be driving the relationship between minority residential percentage and CCRB. Although well beyond the scope of this work, this implicates an already poor relationship between the police and minority communities perhaps grounded in dissatisfaction with police service in general, thus resulting in a higher level of reported complaints with the CCRB.

Essentially, if negative perceptions of the police already exist in the minority community, then actions by the police might be perceived negatively, more so than in non-minority communities. This negative predisposition, therefore, would lead to higher reports of police misconduct, independent of the rate of crime or rate of drug arrest. This also implies that police practices of making arrests and reducing crime are not necessarily, particularly in minority communities, important considerations for improving satisfaction with police services. If crime rate and drug arrest rate are independent of CCRB reports, but CCRBs increase in minority communities, then clearly there are other factors that govern the generation of dissatisfaction with the police not related to crime and drugs.

Additionally, these findings might also suggest that the police mistreat the minority community independent of crime and arrest rates. The role of the police is more than just crime and law enforcement. The police provide a whole host of services to communities (Langworthy and Travis, 2003). The information obtained from the above analysis indicates that minority communities might be receiving shoddy treatment by the police in the delivery of these non-enforcement services, thus leading to a higher level of reported CCRB complaints. Whether it is misperception, mistrust, or mistreatment, there is a strong relationship between CCRB complaints and minority communities. This has

important ramifications for police departments in that when crime rate and arrest rate are factored out, dissatisfaction with the police exists in minority communities. It is important, therefore, for police departments to deal with this dissatisfaction, while they simultaneously deal with crime and drugs.

In light of this discussion it is important now to examine the impact of the Narcotics Initiatives in Queens on the number of reported CCRB complaints. Using the same modeling methods from previous examples, it is possible to explore this relationship using HLM. Again, the level-1 data will report when the Initiatives were deployed, and the level-2 data will report whether or not a precinct was an Initiative precinct or a non-Initiative precinct. Using these equations, and the number of reported CCRB complaints as the dependent variable, it will be possible to see if the timing of the Initiative deployment or the designation of as an Initiative precinct has any bearing on the change, if any, in the reported number of CCRBs. Table 46 reports the findings of these models.

According to table 46, there does not appear to be any relationship between the timing of the Initiatives' deployment, or the designation of a precinct as an Initiative precinct. The statistics reported in table 46 for Initiative effect, displacement effect, and minority effect show non-significance across all variables. The deployment of the SEQI and QNNI, therefore, did not impact on the reported level of CCRB complaints in Initiative or non-Initiative precincts. It can be concluded that these operations were deployed without a rise in complaints by the public by the police, and that the assumption that aggressive police tactics would generate complaints against by the police are unfounded. It is possible to carry out enforcement operations of this type without

necessarily increasing complaints against the police, and that perceived abuses of police powers thought to be associated with aggressive police tactics did not materialize.

In summary, the relationship between CCRB complaints and police activity is clear. Most importantly, the level of CCRB complaints decreased over the course of the study period. This can be understood in the context of the crime rate. The research found that crime rate and level of CCRB complaints are positively and significantly related. As crime rate goes up so do CCRB complaints. This is easily understood because higher crime rates will undoubtedly lead to more police contact, both negative and positive. The negative encounters would produce the CCRB complaints so any situations that increase police citizen contact are likely to be associated with more complaints. With regard to enforcement the findings are mixed. Again the direction of controlled substances and marijuana are opposite. As the controlled substance arrest rate increased the level of CCRB complaints increase, and as marijuana arrest rate increases reported CCRB complaints decrease. While it is difficult to explain exactly why this occurs it is useful to observe that marijuana arrest rate increased and controlled substance arrest rate did not change. The net effect of these relationships is a decreasing level of reported CCRB complaints, likely also to have contributed to the overall decrease along with the crime rate decrease. Furthermore, the findings have shown that the NYPD deployed both SEQI and QNNI without a significant change in CCRB complaints. This indicates that it is possible to field more aggressive police tactics without negatively impacting the community.

In this regard, perhaps the most illuminating finding is the relationship between minority residential percentage and CCRB complaints. There is a strong and significant relationship between minority residential concentration and CCRB complaints, independent of arrest rate, crime rate, and NA closing. This suggests that, holding other factors constant, minority residents lodge more CCRB complaints against the police. This may signal an already poor relationship between the police and the minority community, a higher level of police abuse and mistreatment in the minority community, or a misunderstanding or misperception of police actions. Regardless of the cause, the police need to be aware of this relationship and frame their contact with the minority community in providing police service, even in the form of arrest or NA closing, professionally and not in a manner that creates CCRB complaints. Although well beyond the scope of this research, this important finding requires greater analysis. This analysis could better inform police officials and result in the more satisfactory delivery of police services to the minority community.

It is important to note that CCRB complaints decreased during the study period and the deployment of the Narcotics Initiatives did not result in mistreatment of the public by the police. The findings here signal good news for the police in general and the NYPD in particular, but also highlight the need to do more work in the minority community to decrease the level of citizen dissatisfaction with police activity.

This concludes the discussion section of this research. The findings presented above lend an important understanding to drug enforcement and its relationship to other serious crime in Queens' precincts. It is important to turn now to an analysis of certain

threats that may contribute to the validity of this research. A full discussion of these threats will demonstrate any shortcomings of the current work, and also point out the strength of the findings reported here.

VI. Threats to Validity

This research attempts to understand better the relationship between crime rate and arrest rate for drug offenses. Operating under the presumption that arresting individuals for possessing, using and selling drugs might have an impact on other serious crimes occurring in the same area, drug arrests were compared to serious crime over a six year period. The preceding analyses demonstrated that there were significant relationships between these variables. Marijuana arrest rate, for example, was found to have a strong and inverse relationship to crime rate, and the number of Nuisance Abatement closings in a precinct also had a significant and inverse relationship with each other. To what extent, however, are these, and other findings of the research, related to each other, or are the conclusions being drawn actually because of the product of other forces, either controlled for or not. A discussion of possible sources to the internal and external validity of this research is important at this point. This discussion will highlight potential sources of invalidity and how they impact the findings of the research. Furthermore, it is important to look at the threats to validity from two perspectives: one exploring the relationship between the variables themselves; and the other exploring the impact of the deployment of the Narcotics Initiatives. Each dimension offers its own threats to validity and must at points be looked at distinctively.

According to Earl Babbie (1992) there are 12 potential sources of internal invalidity. The problem of internal validity “refers to the possibility that the conclusions drawn from the experimental results may not accurately reflect what has gone on in the experiment itself.” (Babbie; 1992 pg. 247) Babbie (1992) identified the sources as history, maturation, testing, instrumentation, statistical regression, selection bias,

experimental morality, causal time-order, diffusion or imitation of treatments, compensation, compensatory rivalry, and demoralization. It is likely that some of these sources of invalidity are present in this study. Where there were threats the approach was to control for them as best as possible. In most cases threats have been controlled, but in others there are no suitable controls, and the research then must identify them and caution the reader regarding potential pitfalls because of the threat. The initial proposal for this research relied on Babbie's list of potential threats to validity and identified the ones that posed an impact. Among the 12 threats to internal validity history, instrumentation, statistical regression, selection bias, diffusion or imitation of treatment, and compensatory rivalry were identified as relevant to this research. Furthermore, Babbie identified two sources of external validity: "reactive testing," and "interaction of setting and treatment." (Babbie, 1992). Reactive testing refers to the contamination of the results because of the subject's familiarity with the experiment, and interaction of setting and treatment refers to the generalizability of the research. The only threat to external invalidity was determined to be generalizability. They will be discussed in order.

The threat of history enters into an experiment when historical events occur during the course of the experiment that may confound experimental results (Babbie, 1992, pg. 247). For example, changing Mayoral administrations, and a change in policing philosophy, in the middle of study years might cause a change in the way the police behave and, therefore, change the rate arrest or rate of crime. The Mayor of New York City throughout the study period was Rudolph Giuliani, so the philosophy of an aggressive police force fighting crime did not change because of this factor. Looking at police management, however, there are substantial shifts in leadership within the NYPD

during the period under observation, which may, or may not, influence the changing crime rate. The “Official Personnel Rosters” for the NYPD covering the study period show numerous changes in precinct management, borough management, and executive management (NYPD, 1994; NYPD, 1995, NYPD, 1997; NYPD, 1998; NYPD, 1999; and NYPD, 2000). During the six years under examination there were 76 different Precinct Commanding Officers for the 16 Queens precincts. There were eight Borough Commanders for the two Queens Borough Commands (North and South). There were four Chiefs of Patrol, which is the parent command of the Boroughs, and four Chiefs of Department, the overall commander of police enforcement operations in the City. Lastly, there were three Police Commissioners: Bratton; Safir; and Kerik. The below table illustrates these assignments graphically:

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Assignments of Police Commanders 1995 - 2001

	<u>A</u> Total Number during period	<u>B</u> Avg # Assigned per precinct during period (16 precincts, 2 Boroughs) A/B	<u>C</u> Avg per year during study period (6 years) B/C	<u>D</u> Avg Tenure (months) 1/C x 12
Precinct CO	76	4.75	.79	15
Borough CO	8	4	.67	18
Chief of Patrol	4	4	.67	18
Chief of Dept.	4	4	.67	18
Police Comm.	3	3	.5	24

Table # 50

According to the above table the average tenure of a Precinct Commander was approximately 15 months. The average tenure for the Borough Commander, Chief of Patrol and Chief of Department was 18 months, and the average tenure for the Police Commissioner was 24 months. The only thing consistent with the assignment of Police Commanders in Queens was that they were changed rather quickly. In other words, there was no consistent management, from a personnel perspective, in the precinct, borough, bureau, or executive commands of the NYPD during the study period. If crime strategies and crime rate reduction were impacted by changing management, within the context of the threat of history, the experimental results would have been confounded by the influence of these people. The change of management in the NYPD appears to be rapid and wide in scope. This would almost eliminate the impact any one person or group of people could have on the results. The fact that so many people were changed so often undermines the challenge of history, in the context of changing individuals, interfering with the experimental results. There was just too much change to isolate the impact of any one person in Queens. It does speak loudly to the influence of the Mayor, the only position not to change in the course of the study, on the policies and operations of the NYPD. With change being the rule, not the exception, it is unlikely that the historical influence of individual management change impacted crime rates in Queens.

Similar to the threat posed by history, the threat of maturation must be considered. In a typical experiment the threat of maturation can occur in both the long and short term. In the long term subjects continue to grow and develop thereby impacting their responses to experimental stimuli. In the short term, they can fatigue and tire, or change in other ways that might effect their behavior. Maturation, therefore,

involves the threat of any changes the subject might experience over the course of the experiment. For the purposes of this research, precincts may experience similar changes. The racial, ethnic, socioeconomic, or other demographic changes, may occur in the precincts under observation during the study period. Changes in this regard can have an impact on the levels of crime and drug enforcement. This threat can be understood by examining the precinct-level data to explore any shifts that would signify a change in precinct make-up. Census data is helpful in this regard and can be explored to determine population shifts that would impact on crime or enforcement data.

In all the HLM models used in this research a level-2 variable was incorporated that explored the racial shifts of the population in Queens' precincts. This variable was labeled CDCHANGE and was the sum of the absolute values of the percentage change in racial groups from 1990 to 2000. For example, if the category "white" experienced a 10 percent increase in population from 1990 to 2000, and the category "Asian" experienced a 10 percent decrease from 1990 to 2000, the value CDCHANGE would be 20 percent. The census reports racial categories of white, black, Hispanic (black and white), Asian, and other. If all of these categories did not change then CDCHANGE would have a value of zero, and if there was a 100 percent change in each then CDCHANGE would have a value of 4. The value of CDCHANGE, therefore indicates the magnitude in racial change within precincts in Queens between 1990 and 2000. These data pose certain limitations on the study because they encompass a greater time period than the one in question; capturing four additional years. It could be possible that greater changes were made in precincts before 1995 and then became stable when the crime and arrest data were collected, or conversely, all the racial shifts were experienced after 1994 during the

study period, and none before. If either of these scenarios is accurate then CDCHANGE is not useful in its application as a level-2 variable in models on crime and arrest rate.

This scenario, however, is not likely, and it is equally likely, and more realistic to believe, that changes in racial make-up in precincts changed gradually over the ten years. So, noting these limitations, it is possible to see, in absolute terms, the change racial make-up of Queens' precincts using this method. Table 51 reports these data:

Racial Composition Change in Queens' Precincts 1990 - 2000

Precinct	Initiative	CDCHANGE
100	N	.12
101	N	.15
102	N	.63
103	Y – SEQI	.10
104	N	.30
105	Y – SEQI	.34
106	N	.35
107	N	.36
108	N	.33
109	N	.35
110	Y – QNNI	.35
111	N	.31
112	N	.28
113	Y – SEQI	.10
114	Y – QNNI	.20
115	Y – QNNI	.48

Table # 51

Table 51 shows the absolute change in racial composition of Queens' precincts between 1990 and 2000. On average, there was a 29.6 percent change in racial composition during the ten year period. This rate is high, indicating a substantial shift in the racial composition of not just individual precincts in Queens, but the entire borough. Queens appears to be a borough in transition. The average rate can then be compared to the rates of Initiative and non-Initiative precincts. The change for Initiative precincts is 26.2 percent and the change for non-Initiative precincts is 31.8 percent. It appears that precincts in Queens, both Initiative and non-Initiative alike, experienced substantial shifts in population between 1990 and 2000. The shift in population, like the change in precinct administration, is the rule and not the exception. While certain precincts, like the 102nd, experienced dramatic changes, and others, like the 100 and 101, did not, on average population dynamics in Queens are in transition. The repeated measures of crime, arrest, NA closings, and CCRB used in this study should not, therefore, be greatly impacted because of the wide spread change in population. It is concluded, therefore, that the change in population is not a factor in crime rate, or arrest rate, etc. These relationships cannot be determined using the demographics from Queens' precinct because they are all changing by substantial rate. Essentially, there weren't sufficient comparators to judge crime, arrest, NA, and CCRB in stable communities. The statistics from the HLM models confirm this conclusion. The variable CDCHANGE, regardless of the model used, was not found to be significantly related to the dependent variable under examination. In this context, therefore, the threat of maturation described by changing population composition is not a threat to the findings in this study. The precincts were all maturing, or changing, at similarly high rates. Any contribution that a change in

population composition would make to these variables could not be discerned. All precincts changed, all precincts recorded crime decreases, decreases in CCRB, and increases in arrest and NA closings. What impact that maturation had on these changes could not be determined. If maturation, measured by population change, in precincts over time does impact variables of the nature used in this research, then it impacted them in similar ways and cannot be considered a factor in the final outcome of this study.

Instrumentation deals with the way different subjects are measured by different experimenters. This research deals with the investigation and classification of thousands of crime occurrences across several years and precincts. Although the NYPD instructs police officers how to properly investigate and classify crimes, there is always the possibility that no two occurrences are documented the exact same way. This can lead to problems to the extent that crime is not being document, or that similar occurrences are being documented in different ways.

The NYPD has gone to great lengths to minimize these disparities for several reasons. First, the NYPD relies on accurate information to deploy resources (NYPD Compstat, 2003). If the information is not correct, the deployment will not be useful in addressing conditions. Second, the NYPD has been accused of “cooking the books” when it comes to reporting crime. (Manning, 2001) One of the explanations to account for the reduction in crime in New York City is that the NYPD is falsifying its data. To counter this claim the NYPD has put an elaborate system in place to ensure that crime occurrences are recorded accurately. (NYPD, QAD 2003) Precinct commanders are evaluated regularly to ensure their crime classification is consistent with NYPD policies. Failure to comport with crime classification standards results in serious sanctions against

the erring commander. Past transgressions were met with loss of command, demotion, or forced retirement. Current procedures of the NYPD call for a semi-annual inspection of every precinct's complaint classification system. The NYPD's Quality Assurance Division sends investigators to every precinct and examines hundreds of crime complaints twice each year. The scope and frequency of this process ensures the integrity and accuracy of the crime classification procedures in New York City. Under this system errors are caught and correct, Precinct Commanders are given feedback on their misclassification rate, and most importantly, the NYPD has the ability to ensure that incidents occurring throughout the City are properly recorded and consistent between precincts and boroughs. Unfortunately, records dating back to the period under study were not available for examination. More recent records, however, are available and show that the misclassification rate of crime complaints in the 16 precincts used in this research is 1.9 percent. The latest audit by the Quality Assurance Division indicated that 90 out of 4623 crime complaints reviewed were misclassified for an error rate of 1.9 percent (NYPD, QAD, 2004). In a system that relies on human decision making and judgment a misclassification rate of this magnitude clearly signals that crimes are being properly recorded within an acceptable margin of error. While mistakes are bound to happen, this data shows that the integrity of the NYPD's complaint reporting system appears sound and threats to the validity of this research because of instrumentation are not present.

In addition, the threat instrumentation presents is overcome by the very nature of its threat. Over the course of thousands of events, errors are likely to occur, but because of the sheer volume of reports prepared the errors are absorbed in the overall totals.

Furthermore, these errors likely occur at the same rate across the 16 precincts. Since all members of the NYPD receive the same training in crime classification and investigation, the errors encountered should have been spread evenly across time and across precinct, therefore, diffusing the impact of instrumentation errors. Similarly, precinct commanders are all held to the same standards with regards to crime classification. Deviations from these standards are met harshly. There is, however, a possibility that different precinct commanders in the same precinct might classify crime differently. But, as table 51 shows, changes in police administration occur rapidly, with Precinct Commanders changing, on average, every 15 months. This high turnover, therefore, minimizes the impact any one commander's influence can have on the overall classification of crime complaints.

Because of the system implemented by the NYPD to uncover and correct errors in classification, it is likely that the error rate is kept to an absolute minimum. The combination of these two factors mentioned above will minimize the effect of instrumentation on experimental results.

Similarly, the concept of statistical regression has been used to explain the decrease in crime in New York City. Scholars contend that the crime drop is not related to any specific police intervention, but is simply a return from abnormally high levels experienced during the previous decade (Blumstein 2000). While this can be a challenge to the global nature of the data, the experiences of the individual precincts in question were examined on repeated measures. If the Narcotics Initiative intervention had an impact, the crime trend will be different than in non-Initiative precincts. This was the case for the SEQI, but not the QNNI. Crime rates decreased significantly more when

SEQUI began. If there was in fact a statistical regression to the mean occurring, a change in the crime rate trend should not have been observed when SEQUI was implemented. The fact that there was a significant decrease in crime rate after the SEQUI deployment dispels the notion of mere statistical regression of crime rate trends. The QNNI experience is a different matter. The crime rate did not change significantly after QNNI. Could the decreases in Queens after the QNNI deployment been statistical regression? It is possible, but with the conclusion already drawn that SEQUI had an impact on crime rate decreases, there is little reason to believe that QNNI could not have been effective except for the reasons already mentioned. If QNNI was deployed successfully, by different management, with more personnel, or at different times, crime rates might have decreased significantly as well. It is not enough to conclude therefore, that the decreases crime rate in Queens after the QNNI deployment were due to statistical regression because of the non-significance of crime rates after QNNI.

In a perfectly controlled experiment the selection of subjects would be entirely random. This, however, is not the case with this research; the political/administrative decision of precinct selection had long been decided. While it is possible to observe the change in crime rate as it relates to arrest rate, it will be impossible to conclude, because of the selection bias, the efficiency of the Narcotics Initiatives. Because these precincts were selected based on the incidence or prevalence of drug activity, and not randomly, it is difficult to interpret the results outside of the parameters of this research. It has been shown that the intervention of the SEQUI coincided with a significant reduction in crime, but would this effect have been observed in other precincts that might have been selected at random. This becomes particularly important when the findings of QNNI are

incorporated. The QNNI did not have an impact on crime rate. So with different results observed from two different Initiatives, selection becomes critical. It becomes difficult, therefore, to conclude that the impact of SEQI was due to its intervention into the drug market, or because of the selection process that made the results of intensive enforcement more likely in this area. Although it is impossible to overcome this threat to validity, the pre/post experiences of the Initiative precincts, the “Initiative Effects,” and “Displacement Effects,” as well as the general repeated measures design of all the enforcement variables, paint a clear picture of the relationship between crime and enforcement. The selection bias makes it difficult to make strong conclusions about the Initiatives, but does not compromise the general findings of this research.

With the implementation of the Narcotics Initiatives came a large increase in personnel, equipment, and attention from senior staff. The expansion of the Narcotics Borough Queens occurred rapidly and was a supplement to existing resources. Simply put, there were existing resources deployed to address narcotics conditions in Queens and the Initiatives were an “add-on” to these efforts. Undoubtedly, the placement of additional personnel within an existing pool of people created competition among other members of Narcotics Division in Queens. The control precincts not benefiting from an expansion of personnel surely felt the pressure to increase performance. The natural effect of compensatory rivalry must have occurred. Furthermore, as the Initiative personnel communicated with one another during the times of their deployment it would be natural to conclude that some diffusion or imitation of treatments might occur. Investigators assigned to both the control and experimental precincts are not only likely to compete with one another, they are also likely to borrow and experiment with each

others ideas. This is particularly relevant because the overall commander of the different groups is the same individual.

To account for the compensatory rivalry and diffusion or imitation of treatment effects the “displacement effects” statistics from the HLM models can be used. These models explored the displacement of crime rate, and the change in arrest rate, NA closing and CCRB complaints in Queens’ precincts before and after the deployment of the Narcotics Initiatives. Table 48 summarizes these findings.

Table 48 reports the crime and enforcement information and the timing of the changes in these variables with the deployment of the SEQI and the QNNI. According to table 48 there was a displacement effect when the SEQI was deployed with regard to marijuana arrest rate and NA closings. The displacement effect for NA closings was also present with the QNNI deployment.

These statistics show that there was if there was rivalry or diffusion of treatments between Initiative and non-Initiative precincts, it was kept to a minimum. The only displacement effects disclosed by the models came in the form of an increased crime rate, and a decreased level of NA closings associated with the QNNI deployments. It can be inferred that the QNNI deployment stabilized crime rate in northern Queens during a time when crime was on the rise. Had it not been for the Initiative deployment crime rate in these precincts could have been greater. Furthermore, the level of NA closings decreased. If there was true rivalry, enforcement activity would have increased, not decreased. More likely is that resources were shifted away from non-Initiative precincts, in the form of Nuisance Abatement, to handle the demands of the Initiative. This could account for the increased crime rate, and decreased NA closing level. This would speak

to the opposite of a rivalry, and a situation where one set of precincts was receiving a greater share of resources than non-Initiative precincts. In light of the information already provided about the neutrality of controlled substance arrests on crime rate, and the benefit of NA closings and marijuana arrests on reducing crime, it appears that the tactics that worked towards reducing crime diffused, while the one that does not impact crime did not diffuse. It is seemingly possible that Narcotics personnel assigned in Queens, whether assigned to an Initiative or not, understood intuitively the benefit of certain tactics over others. The valuable tactics generated by the Initiatives diffused into non-Initiative precincts while the neutral ones did not.

Within the COMPSTAT process designed by the NYPD this makes sense. The NYPD gathered personnel from the same geographic vicinity and questioned precinct commanders on crime reduction efforts. It is not a leap of faith to conclude that the successful strategies and tactics were brought back by all precinct commanders and used by them whether they benefited from an Initiative or not. In the case of internal validity, these findings point out the presence of a compensatory rivalry, and/or diffusion or imitation of treatments. This does not undermine the results of this research, but conversely, strengthens the notion that crime can be managed by the police, via the COMPSTAT process.

Threats to External Validity

Babbie (1992) identifies two threats posed to external validity based on research design. First is the “reactive testing” effect where a pre-test may cause an increase or decrease in the subjects sensitivity to the independent variable, the “Pygmalion” effect.

The second is the “interaction of setting and treatment” effect where the results could only be generalized to other subjects in very similar settings (Campbell and Stanley 1963; Babbie, 1992).

The impact of the first threat mentioned above is minimized on several different fronts. While there is no pre-test per se, the previous deployment of other Narcotics Initiatives in other boroughs, and the anticipated deployment in southeast Queens may implicate this concept. This scenario, however, is not likely for several reasons. First, police officers assigned to the Initiative had no knowledge of its inception. The build up of resources, as indicated by table 1, required the reassignment of more than 250 officers. These officers had to come from within the NYPD and not necessarily the precincts benefiting from the Initiatives’ deployment. It is not likely that they would have had any experience in the SEQI or QNNI precincts, or even aware of the logistics of the deployment. Second, this effect relates to the impact on subjects, and in this case it is impossible to conclude that residents (victims and offenders alike) could be expected to act differently because of the implementation of the Narcotics Initiative, assuming they even knew about the deployment in the first place. For these reasons it is unlikely that the threat of “interaction testing” on the external validity of this research is present at all.

The selection of the county of Queens and its unique demographic make-up speak directly to the second threat to external validity. Queens County is neither urban, nor rural, but suburban. It is considered a “bedroom community” of Manhattan. The Queens’ home ownership rate is double that of Manhattan (20.1%), Brooklyn (21.7%) and the Bronx (19.6%), and is closer to the home ownership rate of the US average of 67.1% (2000 US Census). The median household income in Queens is \$42,439, which is

almost identical to the US level of \$41,994. (2000 US Census) And yet the population of more than 2 million residents would make Queens the fourth largest city in the United States. (2000 US Census) Queens is a unique location from a socioeconomic standpoint. It is not an urban center, as indicated by a relatively high home ownership rate, and is largely middle class, as indicated by the median household income, but because of its population, proximity to Manhattan, and its political existence in NY City government, Queens takes on many attributes of a big city. The combination of these two forces makes Queens either an ideal location to analyze the impact of police enforcement on drugs because of its universal applicability; both urban and suburban, or impossible to generalize from these results to other parts of the country because there are few places that take on this decidedly mixed make-up. I believe the first part of this is true. While the results will not be easy to generalize to strictly urban centers, or rural communities, they will be easy to generalize to a large segment of communities in the United States, and Queens offers a unique opportunity to study the relationship between drug enforcement and serious crime. The findings here are useful, and can be used to describe the relationship between drug enforcement and crime in a majority of US communities. Generalization of the findings of this study, however, must be done with caution, keeping in mind the unique socioeconomic composition of the setting.

VIII. Discussion of Hypothesis

At the onset of this research seven hypotheses were articulated. These hypotheses were drawn by the researcher based upon conventional wisdom about the expected relationships among the variables under examination. It is useful to revisit those hypotheses to determine if the results of the research substantiated any of them.

The first hypothesis discussed the relationship between drug enforcement and serious crime and was listed as follows:

Hypothesis 1

Drug enforcement will have a direct impact on the level of serious offending in New York City Police precincts in Queens. In general, as the level of drug enforcement increases the level of serious crime will be reduced.

Hypothesis 1 has only been partially confirmed. With respect to controlled substance arrest rate, this hypothesis is inaccurate. This research has concluded that crime rate and controlled substance arrest rate are related, but not in the direction predicted by this hypothesis. The research found that as crime rate increases, so does arrest rate for controlled substances. The fact that the two variables go hand in hand speaks to the addictive behavior of the persons involved in buying, selling, and using these drugs on the street. Where there are more drugs present, there are likely to be more addicts present seeking to obtain these drugs. Where there are more addicts, there will be more crimes committed by those addicts to support their habits, and, therefore, more crimes reported in a given area. Also, it does not appear that arrest for controlled substance sufficiently deters the addict from returning to drug prone locations where they

presumably get their supply of drugs, and commit other crimes in the vicinity to pay for them.

This same type of behavior does not seem to be true with marijuana, and Hypothesis 1 has been confirmed with respect to marijuana arrest rate. The research showed that there is a significant inverse relationship between crime rate and marijuana arrest rate in Queens during the period of study. As marijuana arrest rate increases crime rate decreases. This was also one of the strongest findings in the study, with a t-ratio of -6.576. This finding permits two conclusions. There is a difference in the behavior of persons buying, selling, and using marijuana then there is with controlled substances. Apparently the dynamics of marijuana consumption are sensitive to police intervention as indicated by the strong inverse relationship between arrest rate and crime. As the police increase arrest rate for marijuana other serious crimes decrease. Persons buying, using, or selling marijuana must be influenced by the arrest, and the arrest for marijuana offenses becomes an important instrument in decreasing other serious crime. This implicates the second conclusion: that the police can have an impact on the rate of crime in communities by enforcing relatively minor offenses like marijuana. While the highly addictive behavior associated with controlled substance usage appears impervious to efforts by the police, enforcement of marijuana offenses seems to be an effective way to address other serious crime. The nexus between the two likely exists in the power of the deterrent and the psychology of the end user of marijuana. People are not willing to risk arrest to support their demand for marijuana at locations targeted by the police. If the locations where marijuana and controlled substances are brought, used and sold, are different, then the police can influence the behavior of marijuana users and sellers,

change the dynamics of the location involved in marijuana, restore order to the location and, therefore, decrease other serious crime that would have occurred because of the marijuana activity.

Hypothesis 2

The relationship between drug enforcement and serious crime will be present in all precincts throughout Queens. The relationship will be present after controlling for selected demographic variables.

A significant decrease in crime rate was observed in all precincts in Queens. These decreases, however, did not occur at the same pace, with some precincts experiencing a steep decline, while others experienced a more modest one. The impact of arrest rate for controlled substances and marijuana were the same as discussed under Hypothesis 1. Marijuana arrest rate was the contributor to a reduction in crime in Queens precincts, and controlled substance arrest rate was positively associated with crime rate. Demographic variables did not play a part in the crime rate in Queens. Population was the only influential variable on crime in precincts. This impact caused the research to focus on rates of crime and arrest for each 100,000 residents in order to control for the effect of population. None of the other demographic variables were found to be related to crime in Queens during the study period.

Hypothesis 3

The impact of drug enforcement will be greatest in the neighborhoods staffed with Narcotics Initiatives. Those precincts where Narcotics Initiatives are deployed will show the greatest decrease in serious crime.

The findings with regards to this hypothesis are mixed. The statistics presented in the various Tables indicate that the SEQI was the only Initiative to have impacted crime rate. The research showed that after the deployment of SEQI, precincts benefiting from this deployment experienced a significant decrease in crime rate. This decrease in crime rate did not result in a displacement of crime to other precincts in Queens. The deployment of the QNNI did not have the same results. Statistics also presented in various tables indicate that after the deployment of QNNI there was a non-significant change in crime rate in precincts benefiting from this deployment. Furthermore, it appears that crime increased significantly in precincts not benefiting from the QNNI deployment. It appears that Hypothesis 3 can be confirmed for the SEQI, but not for the QNNI.

These findings could have occurred because of many possibilities. As discussed, the timing of the Initiatives could have had an impact. The QNNI was deployed in February 1999, approximately five years after the NYPD reorganized its drug enforcement operations. There were also different commanders in charge of the two Initiatives. The SEQI was commanded by Deputy Chief McCarthy, and as previously discussed, had a thorough understanding of the Initiative concept,” and the importance of the three-prong approach. The character of the communities in northern Queens might not have been as saturated with drug activity to warrant a Narcotics Initiative, but because of political forces received one anyway. These factors may account for the apparent success of SEQI and not QNNI. Research beyond the scope of this work would be required to flesh out the differences between these two Initiatives.

Hypothesis 4

Enforcement of drug offenses will be significantly related to reductions in all categories of serious crimes.

This hypothesis is not confirmed by this research, and produces mixed results depending upon the nature of arrest rate used. Examination of two tables that consolidate the results of 20 HLM models exploring the relationship between arrest rate and crime rate show that the impact of drug arrest rate is mixed and depends upon the category of arrest. In the first instance, regardless of the crime category analyzed, controlled substance arrest rate was positively related to crime rate. In several crime categories this relationship was significant (total crime, property crime, murder, robbery, burglary, and auto theft), and in others it was not (violent crime, rape, assault, and grand larceny). This finding dispels the notion that arrests for controlled substance can reduce other serious crime.

The converse can be said about the relationship between marijuana arrest and crime rate. In contrast to the results obtained with controlled substance arrest rate, all of the categories of crime analyzed by this research showed an inverse relationship between marijuana arrest rate and crime rate. For total crime, violent crime, and property crime, as well as the individual crimes of robbery, burglary, grand larceny, and auto theft, the relationship between arrest and crime was significant. The strongest relationship observed in this research was produced by the relationship between marijuana arrest rate and the rate of robbery. For the crimes of murder, rape and assault there was a non-significant relationship between marijuana arrest rate and crime rate. Hypothesis 4, therefore, holds true for the relationship between controlled substance and marijuana

arrest rate and crime, but in opposite directions. Furthermore, this relationship is significant only for certain categories and classifications of crime rate.

Hypothesis 5

The use of the enforcement strategy under the Narcotics Initiatives had an impact on the arrest rates for drug offenses and contributed, therefore, to the change in crime rate in precincts benefiting from this deployment.

Once again and absolute yes or no to confirm or refute this hypothesis is not possible. The results from this research are mixed and depend on the category of arrest. For the rate of controlled substance arrests, the deployment of the two Narcotics Initiatives in Queens did not have an impact. The statistics demonstrate a non-significant change in controlled substance arrest rate after these Initiatives were deployed. Essentially, the Initiatives did not contribute to any changes in the controlled substance arrest rate in Queens during the period of this study, and, therefore, could not have contributed to a reduction in crime rate visa vie these arrests.

The converse can be said again about marijuana arrest rate, but only for the SEQI. The statistics indicate that the deployment of the SEQI had an impact on the arrest rate for marijuana. If the deployment of SEQI had an impact on increasing arrest rate for marijuana, and increased arrest rates for marijuana are associated with a decrease in crime, then the conclusion can be drawn that the SEQI contributed to the decrease in crime rate in the precincts benefiting from the SEQI deployment. This finding, however, cannot be made for the QNNI. As the tables discussed above indicate the deployment of QNNI did not impact marijuana arrest rate. If marijuana arrest rate is associated with a

decrease in crime rate, then the non-contribution of QNNI in this regard would also signal a non-contribution to the rate of crime as it relates to marijuana arrest rate. In summary, hypothesis 5 is only confirmed for the SEQI as it relates to marijuana arrest rate.

Hypothesis 6

Using the Nuisance Abatement ordinances in the New York City Administrative Code to seize properties associated with narcotics activity is an effective method of reducing crime in police precincts in Queens, NY. As Nuisance Abatement closings increase, therefore, serious crime will decrease.

This hypothesis was confirmed by the research. Examination of the tables shows that Nuisance Abatement closings were inversely and significantly related to the rates of total crime, violent crime, and property crime. The individual rates of robbery, burglary, grand larceny, and auto theft were also inversely and significantly related, while murder, rape, and assault were non-significant. The inverse relationship between property crime and Nuisance Abatement closings was one of the strongest findings in this study with a t -ratio = -10.721, and p -value <0.001, and for total crime rate the HLM model indicated that one NA closing completed in an average precinct would correspond to a 12.5 decrease in total crime in that precinct.

Nuisance Abatement was also shown to have increased significantly after the deployment of both SEQI and QNNI. The statistics obtained from the models, and presented in the tables show that the Initiative effect of SEQI on NA closings was 0.671 more NA closings in the average month after the deployment of SEQI, and 0.536 closings in the average month after QNNI. Both of these values were significant at the $p=0.008$,

and $p=0.025$ respectively. Also, while the models showed a non-significant change in NA closings after the SEQI, they also showed a significant decrease in NA activity after the deployment of QNNI. The displacement effect observed here appears to be a shift in resources away from non-Initiative precincts to support the activity of QNNI. This would indicate that the Initiatives did have a direct impact on the significant increase in NA closings. It is sufficient to say that Hypothesis 6 pertaining to Nuisance Abatement closings was confirmed. As NA closings increased crime rate, in particular property crime rate, decreased, and NA closings was demonstrated to be an effective means to decrease crime.

Hypothesis 7

The use of Narcotics Initiatives by the NYPD is a viable strategy to reduce crime. Furthermore, the Initiatives can be deployed without an increase in community complaints, and without a negative impact on surrounding neighborhoods via crime displacement.

This Hypothesis requires a two part response. The first part of the hypothesis pertaining to the effectiveness of the Narcotics Initiatives of the NYPD as strategies to reduce crime has mixed results and has not been confirmed or nullified. It appears as if the SEQI was effective at reducing crime rates during the study period, as well as increasing marijuana arrest rate, and NA closings. So by these measures, the effectiveness of the SEQI was confirmed. The effectiveness of the QNNI, however, appears to be in doubt. By all indicators the timing and deployment of the QNNI did not appear to have an impact. With the exception of NA closings none of the indicators changed after QNNI was deployed. The change in crime rate, arrest rate for controlled

substances, and arrest rate for marijuana were all found to be non-significant. The reasons behind these differences remain unknown, but it can be concluded that the SEQI was effective and the QNNI was not, based upon the measures used in this study.

The second part of hypothesis 7 can be confirmed. The Narcotics Initiatives were deployed in Queens in such a manner that civilian dissatisfaction measured by CCRB complaints did not increase. The statistics obtained through the HLM models indicated that the change in CCRB complaints after the deployment of both the SEQI and QNNI did not translate into an increase in CCRBs. Non-significance was also noted for the displacement effect of the Initiatives deployment on CCRBs. Not only, therefore, was there a non-significant change in the number of reported CCRB complaints in Initiative precincts after the Initiatives were deployed, these deployments did not create an increase in CCRB complaints anywhere else in the borough either. In fact the study showed that reports of CCRB complaints decreased significantly over the course of the study period. The second part of Hypothesis 7, therefore, is confirmed.

IX. Conclusion

The title of this research is “An examination of the effect of drug enforcement on the rate of serious crime in Queens county New York from 1995-2001.” It is a work that asked questions about the nature of drug enforcement and the effect it had on other non-drug offenses. The underlying assumption of this examination was that the police believe there to be a connection between drugs and other crimes, and that various schools of criminology doubted this assumption, asserting perhaps that the enforcement of drug laws was futile at best, and discriminatory and illegal at worst.

Another assumption in this research is the utility of the “broken windows” approach to policing and disorder. Drugs enforcement, in this work, stands as a proxy for neighborhood disorder. The presence of drug activity in a community is a certain sign of disorder. Like graffiti, public drinking, prostitution, etc., drug use and sales in a neighborhood is an indication that conventional community controls have waned and the destructive menace of illicit drugs managed to exist. The greater the amount of drug arrests, therefore, would be an indication of the extent of this disorder. As the “broken windows” metaphor asserts, attending to these disorderly conditions can stem the tide of more serious offending by sending a message to the would-be offenders that disorderly behavior will not be tolerated, and by restoring order to these locations and permitting the non-disorderly segments of the community to maximize their use. Be it a park, playground, or block, removing the disorder, in this case drug activity, and not only is the signal given to those involved in the drug activity to stop, but it is also given to others to use the park, playground, and street corner for what it was intended.

This research essentially tests these assumptions. Without attributing causality, it is possible to look at the changing rates of crime and arrests for drugs to see what relationships do exist. If there aren't any statistical relationships, then certainly the assumptions discussed above cannot be assumed. But if there are relationships, then the assumptions can be considered valid, without necessarily ascribing cause and effect. And if they do hold, proponents of the "Harcourt School" that argue about the futility of the police approach have to be kept at bay, at least a little while longer, while the cause and effect dynamics are more thoroughly explored. George L. Kelling started this discussion more than 20 years ago and as recently as 2002 was still asking the question "Do the Police Matter?" in his discussion of the New York City crime experience of the 1990s. After reviewing the experience in 16 precincts in the New York county of Queens over the period of 72 months, the answer to Kelling's question is that the police matter, but not as much as the police might think.

This research compared seven classifications of crime (murder, rape, robbery, felony assault, burglary, grand larceny, and grand larceny auto), three categories of crime (total crime, violent crime, and property crime) with two broad categories of drug arrest: Article 220 of the Penal Law pertaining to controlled substances; and Article 221 of the Penal Law pertaining to marijuana offenses. In addition to drug arrest and crime, the reported levels of Nuisance Abatement closings was used as an additional measure of police drug enforcement, and CCRB complaints were used as measure of community or citizen satisfaction with police activity. These variables were further examined in light of the deployment of two Narcotics Initiatives in Queens that targeted drug activity. All of this information was explored within the context of selected community demographics

that were thought to influence the level and fluctuations of these indicators. Community level data on population, population density, median household income, poverty, unemployment, change in community racial make-up, concentration of minority residents, and educational attainment were used to control for the rates and changes of crime complaints, arrests, nuisance abatement closings, and civilian complaints. Various combinations of these variables allowed for the examination, as the title of the work suggests, of the relationship between drug enforcement and serious crime.

For starters, crime significantly decreased in Queens during the study. The average precinct experienced a reduction in crime rate greater than two crimes per month over the 72 months under observation. Different precincts in Queens, however, experienced both different rates of crime in general, and different rates of reduction. Some can be considered high crime, some low crime, and some witnessed erratic decreases, while others witness slow continuous declines. Make no mistake, all of the 16 precincts experienced substantial and significant decreases in the rate of crime. The crime decrease was universal in all crime categories and classifications, with the lone exception of the rate of felony assault. These findings simply affirm what was obvious to the residents of Queens that crime decreased and it was noticeable.

The main thrust of this research centered on the influence that drug enforcement would have on the rate of crime. For the purposes of this work, enforcement was conceptualized as three broad categories of police activity: controlled substance arrests, marijuana arrests, and the use of nuisance abatement ordinances to seize locations. Each one individually captures a distinct method of police activity, and collectively, they paint a good picture of the level, intensity, and focus of police activity aimed at enforcing drug

laws. In addition to these variables, the research sought to identify any changes to the rate of crime after the NYPD deployed two Narcotics Initiatives whose mission was to eliminate the illicit drug trade. The findings were mixed.

Marijuana arrest and Nuisance Abatement closings were found to be two of the strongest predictors of reductions in crime rate. As these two variables increased crime rate decreased. As methods of crime reduction, marijuana arrest and nuisance abatement stand out with regard to their inverse relationships to the rates of different classifications of crime. It is also important to note that both marijuana arrest rate and nuisance abatement closings significantly increased in all precincts over the period under observation. Within this dynamic Wilson and Kelling's thesis "broken windows" finds its greatest support.

The "broken windows" metaphor involves both social and physical indices of disorder. From the social side, disorder is meant to include behaviors like panhandling, public drinking, noise, and in this case drugs. On the physical side it is meant to describe things like graffiti, litter, and, literally, broken windows. It can also be extrapolated in this research to include physical locations. In this regard, the "broken windows" theory finds support from the findings of this research. Low level drug use and sales, as represented by marijuana enforcement, was shown to be significantly and inversely related to crime. The elimination of locations involved in drugs was also found to be significantly and inversely related to crime rate. Together they speak for the social and physical dynamics of the "broken windows" theory with respect to crime control. Enforce the little things, like marijuana, and improve the physical signs of neighborhoods, like abating drug locations, and other serious crime can be reduced. This

is not meant to imply that all marijuana enforcement done during the period under observation was done on the streets and directly related to public spaces, nor is it meant to imply that abating drug locations improves the physical appearance of neighborhoods, but there is enough evidence, taking these findings separately or in combination, to support the notion that there is value to enforcement of social and physical signs of disorder as a method of reducing other more serious crime. Much more attention needs to be devoted to this area to tease out the precise relationships. This endeavor should be conducted both quantitatively and qualitatively to get a better understanding of the social and psychological mechanisms involved.

The experience of drug enforcement with regards to controlled substances is another story. This research has shown that controlled substance arrests and crime are significantly related, but in the same direction. As controlled substance arrest rate increases, so does crime rate. This finding contradicts conventional police practices with controlled substance enforcement. There is a firmly held belief that targeting controlled substance offenses will bring the added benefit of reducing other serious crime. As the NYPD stated in its Strategy No. 3 Driving Drug Dealers Out of New York, drug enforcement was seen as the engine to reduce other crime. The build up of personnel to staff “Initiatives” was certainly designed to root-out drugs, but it was also done with the intentions of reducing other crime as well. This notion was not borne out by this research. In fact, the opposite claim can be made. As crime goes up, controlled substance arrests go up as well. This is likely to be the results of controlled substance use and sales existing in the same places as serious crime. It is further likely that the behavior of people involved in the use and sales of controlled substances are not

sufficiently deterred by the threat of arrest. Arrest, therefore, only acts as a “time-out” from the activity due to incapacitation. It is possible to say that the controlled substance arrest is useful only to the extent it can begin the process of closing the location associated with it through nuisance abatement.

It is also important to note that the rate of controlled substance did not change significantly during the study period. Perhaps the non-significant change in controlled substance arrest rate in the face of significantly declining crime rate marginalized the contributions this activity made to the overall rate of crime. Regardless of the reasons, controlled substance arrest rate was shown not to be associated with a crime reduction, on the contrary, it was significantly associated with, and moved in the same direction as crime rate.

Another valuable contribution of this research is the examination of the NYPD’s deployment of two operations known as “Narcotics Initiatives.” The Initiatives were used as vehicles to aggressively root-out drugs in six Queens’ precincts. And through the use of “dummy-coding” the linear modeling was able to calculate the differences in crime rate, arrest rate, nuisance abatement levels, and reports of CCRB complaints when the Initiatives were in operation. The change in these variables after the Initiatives were deployed is mixed. On three of the four arrest indicators there were non-significant changes associated with the Initiatives’ deployment. It was only during the deployment of the SEQI that marijuana arrest rate increased. Controlled substance arrest rate during both SEQI and QNNI, and marijuana arrest rate during QNNI did not change. The level of nuisance abatement closings, on the other hand, did increase significantly. This increase, however, was observed for both Initiatives. In non-Initiative precincts NA

levels either remained stable or decreased. The decrease could have been due to shifting resources to support the Initiatives. On another positive note, the level of reported CCRB complaints did not increase with the deployment of the Initiatives. The aggressive police intervention, whether materialized or not, did not cause an increase in community complaints. The NYPD was able to successfully contain police abuses and deployed both Initiatives without an increase in community dissatisfaction.

The role of CCRB complaints in police enforcement and crime deserves particular attention. One of the more interesting findings in this research is the strong relationship between the level of CCRB complaints and the concentration of minority residents in a given precinct. As minority residential concentration increases, so does the level of CCRB complaints. This is independent of the rate of crime, drug arrest, or nuisance abatement closings in that precinct. The underlying cause of this finding cannot be determined, but several plausible explanations were offered. There could be a pre-existing negative perception of the police in the minority community, and this perception may make police conduct seem more abusive; more like mistreatment than service. The minority community could be treated poorly by the police to begin with. There could be racial bias and discrimination on the part of the police and this manifests itself in the encounters the police have with the minority community. Whatever the cause, this finding deserves serious attention. Whether it is the minority communities' perception of the police, or the police mistreatment of the minority community, the issue needs to be studied further in order to be better understood and eliminated.

In conclusion, this study provides important insight into the issues of drug enforcement, serious crime, police operations, and police community dynamics. It offers

interesting findings to inform policy and theoretical perspectives in policing and criminal justice. It is hope that the body of this work can inform decisions within the field of criminal justice and used as the foundation of future research.

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