A Review of the Research Literature on the New York City Crime Decline

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Starting in the early 1990s, the United States including New York City (NYC) experienced an unexpected and an unprecedented crime decline (Blumstein & Wallman, 2006; Karmen, 2000; Zimring, 2007). Scholars, researchers, and policymakers have put forth theories and research attempting to explain this phenomenon. Indeed, the spectrum of cited reasons for the crime decline is broad (e.g., from demography and economic indicators to drug markets and policing strategies) and the range of empirical results contradictory. This paper reviews the existing literature on the NYC crime decline. First, the paper discusses whether the crime decline in NYC has been unique relative to national trends and other cities. Second, the paper examines the causes of the crime decline, with a significant focus on policing practices, an area that remains the most controversial with regard to the gains attained in crime control relative to the potential harm caused by civil rights violations. Notably, although the paper reviews all research pertaining to the time period after 1990, most of the empirical and theoretical attention has been limited to the 1990s, with post-2000 crime rates remaining largely unmentioned in the literature. Third, the paper highlights promising areas that need further exploration, especially with regard to the post-2000 crime decline.

Is the Crime Decline in New York City Unique?

The 1990s crime drop is indisputable at a national level (Blumstein & Wallman, 2006; Joanes, 2000; Karmen, 2000; Zimring, 2007). Crime across categories from homicide and robbery to larceny and motor vehicle theft (MVT) decreased at record rates for modern times (Travis & Waul, 2002). However, it is unclear whether the crime decline in NYC has been unique relative to national trends and other cities. Karmen (2000) found that NYC homicides
decreased at an unprecedented rate in the 1990s. However, this drop was “in sync” with the rest of the country, with Boston and San Diego experiencing greater decreases in homicide rates relative to NYC. Similarly, other research has found that homicide rates in NYC declined, but not at exceptional levels, relative to other cities either in the 1990s (Fagan, Zimring & Kim, 1998; Rosenfeld, Fornango, & Baumer, 2005) or in looking at cyclical patterns from 1976 to 1998 (Joanes, 2000). On the other hand, Zimring (2007) argued that the crime drop in NYC was approximately double compared to that of the nation, and the largest decline relative to other large cities. These differences in the magnitude of the crime drop may be explained, in part, by Zimring's (2007) inclusion of seven different crime rates (i.e., homicide, rape, robbery, aggravated assault, burglary, larceny and MTV) versus only homicide rates by other researchers (Fagan et al., 1998; Joanes, 2000; Rosenfeld et al., 2005).

The post-2000 crime decline is not as well documented and agreed upon, partially because there are no clear and consistent trends. In general, the drop has been less drastic and there is considerable variation among jurisdictions and demographic groups, with some cities demonstrating increases, rather than decreases, in crime (Police Executive Research Forum, 2006; Travis & Waul, 2002). NYC continues to boast a crime decline post-2000, with Zimring (2010) stating that the city’s crime decline is larger and longer than national trends by two-fold. Further, he argued that a substantial portion of the post-2000 decline is a city level phenomenon that cannot be attributed to national trends.

Critics have recently questioned official police statistics and have suggested that precincts are engaging in data falsification and doctoring of crime reports to maintain low numbers (see Barron, 2010; Rayman, 2010). The secondary gains of lower crime rates are considerable for the city as a whole with regard to tourism and international recognition, and
within the NYPD with regard to political status of key players, promotions, and/or personal accomplishments or embarrassments in COMPSTAT meetings (see below).

Using the National Crime Victimization Survey (NCVS) as an independent source, Lauristen and Schuam (2005) examined the accuracy of crime rates in NYC from 1980 to 1998 for robbery, burglary and aggravated assault rates. They found considerable convergence between the Uniform Crime Reports (UCR) and the NCVS for burglary and robbery rates, with less agreement for aggravated assault rates. Using health statistics and insurance company data, Zimring (2010) also found a high degree of convergence for both homicide and MVT rates from 1990 to 2009. While the veracity of official reports has come into question, the decline in rates of homicide, burglary, robbery, and MVT has been corroborated by independent sources, with homicide rates being considered the most credible and reliable crime statistic.

**Causes of the Crime Decline**

Significant empirical and theoretical debate exists as to the influential social structural and policy changes underlying the NYC crime decline. Scholars have agreed that there is no single causal mechanism and several social changes have likely worked in conjunction to produce the unprecedented decline (Karmen, 2000; Travis & Waul, 2002; Wallman & Blumstein, 2006; Zimring, 2007). Possible factors associated to the decline include policing strategies, drug markets, gun availability, incarceration, demographics, economic conditions, and housing; empirical evidence regarding these factors is contradictory. Reasons for the contradictory results include: (1) temporal factors – some mechanisms may be more influential in the early part of the decline and others more influential in the latter part and the time frame examined may alter the level of impact; (2) use of proxies – the measurement of factors such as drug markets vary across studies (e.g., hospital admissions for overdoses versus proportion of
accidental deaths positive for cocaine) and can influence results; (3) aggregation level – examining city, borough or precinct level data can substantially impact results; and (4) use of covariates – studies that do not account for a full range of covariates and competing mechanisms may be misleading. The present review attempts to reconcile contradictory results among the studies based on these differences. Further, this review covers both simple and more complex models, beginning each section with correlational models and proceeding to multivariate models that account for socio-demographic and crime relevant covariates.

Policing Strategies¹

Police Commissioner William Bratton took office in 1994 and had six specific goals for crime reduction in NYC: (1) reclaiming open spaces, (2) getting guns off the streets, (3) curbing youth violence in schools and on the streets, (4) driving drug dealers out of NYC, (5) breaking the cycle of domestic violence, and (6) reducing auto-related crime. NYPD strategies to achieve these goals involved an increase in order-maintenance policing including stop and frisk practices, implementation of COMPSTAT, greater police manpower, and policing of hot spots. Although this paper addresses each issue separately, teasing apart the influence of one strategy versus another is difficult given that most of the strategies were implemented simultaneously and are often part and parcel of one another (Fagan et al., 1998; Karmen, 2000).

Policing strategies and their impact on the crime decline are the most contentious and fiercely debated in the literature, with empirical support being mixed. Overall, it is likely that the range of NYPD strategies deserves some credit for the crime decline, but the amount of recognition is debatable (Karmen, 2000). Critics have argued that crime was decreasing prior to

¹ Several policies and strategies, including an increase in the size of the police force, are often attributed to Rudolph Giuliani and William Bratton. However, many of these changes were set in place prior to 1994 by Mayor David Dinkins (Smith & Bratton, 2001; Vitale, 2005).
the implementation of Bratton’s aggressive strategies (Fagan et al., 1998; Karmen, 2000; Rosenfeld, Fornango, & Rengifo, 2007), though the rate of decline may have accelerated after he took office (Rosenfeld et al., 2007). Others have asserted that the studies showing the strongest support for the NYPD strategies often ignore simultaneously occurring exogenous variables and fail to account for significant temporal lags (Joanes, 2000). As such, these studies do not account for the more complex process of crime reduction.

**Order-Maintenance Policing.**

Based on broken windows theory, Mayor Rudolph Guiliani implemented a “quality of life” initiative in 1993 (Wilson & Kelling, 1982). The theoretical premise is that minor infractions such as graffiti, panhandling, public urination, and related conduct creates physical disorder and gives the impression that crime is tolerated within a neighborhood. Curbing minor crimes demonstrates a perceived intolerance for crime in general, and results in lower rates of more serious crimes such as robbery and homicide. This initiative resulted in policing that emphasized arrests for minor infractions. This strategy was successfully implemented in the New York Subway system by Bratton, with gains being greater than expected (Kelling & Bratton, 1998). As such, when Bratton became the NYPD commissioner in 1994, he applied this form of policing at a city wide level.

Notably, this type of policing has been characterized in the literature with an array of terms including “broken windows” policing, order-maintenance policing, misdemeanor policing, zero tolerance policing, and quality of life policing. Most of the empirical studies fall under the rubric of order-maintenance policing and misdemeanor policing.

**City Level Analyses.** Using monthly time series data from 1974 to 1999, Corman and Mocan (2005) found support for misdemeanor policing, measured by misdemeanor arrests, on
robbery, MVT, and grand larceny rates but not for homicide, assault, burglary, and rape rates. While this study accounted for some relevant city level covariates (i.e., felony arrests, police size, unemployment, minimum wage, and age composition), it was criticized for lacking a comparison group (e.g., Rosenfeld et al., 2007).

**Precinct Level Analyses.** To address the limitation of valid comparison groups, several studies have used police precincts as the unit of analyses. Thereby, allowing for a within-city comparison. Kelling and Sousa (2001) examined the impact of misdemeanor policing on a composite index of violent crime (homicide, rape, robbery, and felonious assault) from 1989 to 1998. Misdemeanor policing was significantly related to a decrease in violent crime, after accounting for precinct level young males, borough level unemployment, and borough level cocaine related incidents. However, “changes” in violent crime were compared to levels of misdemeanor arrests, rather than “changes” in misdemeanor arrests.

Replicating the above data, Harcourt and Ludwig (2006) addressed this limitation and accounted for additional covariates including precinct level (rather than borough level) poverty, socio-demographics and police manpower. With these additional covariates, misdemeanor policing was no longer significantly related to violent crime. These results highlight the need to account for covariates at the appropriate level of aggregation and to model “changes” in predictors and outcomes, rather than using absolute levels.

Rosenfeld et al. (2007) examined the impact of order-maintenance policing (measured by arrest rates for misdemeanors and ordinance violations) on robbery and homicide rates from 1988 to 2001. The authors accounted for several socio-demographic (i.e., socioeconomic disadvantage, residential instability, percent immigrants and percent Black) and crime relevant (i.e., misdemeanor complaints, number of police officers, imprisonment per felony arrest ratio,
deaths from cocaine overdose) covariates at the precinct level. They found that order-maintenance policing explained a four percent reduction in robbery rates and a ten percent reduction in homicide rates. As such, there was a modest impact of misdemeanor policing on robbery and homicide rates but the reduction started before order-maintenance policing was implemented and would have occurred without it.

Similarly, Messner et al. (2007) examined the role of misdemeanor policing, socio-demographic variables (i.e., percent male, percent under age 35, percent Black, percent unemployed and concentrated disadvantage) and crime relevant variables (i.e., proportion of accidental deaths positive for cocaine for drug markets, proportion of suicide death by gun for firearm availability, felony arrests, police manpower) on homicide and robbery rates in NYC from 1990 to 1999. Misdemeanor policing was influential for gun-related homicides and robberies, but not for non-gun related homicides. These results are congruent with other research which found that gun-related homicides have a distinctive trend relative to non-gun related homicides (Fagan et al., 1998).

Using the same data, Cerdá et al. (2009; 2010) examined patterns of misdemeanor policing on gun-related homicides at an aggregate level and among three distinct age groups (15 to 24; 25 to 34; 35 and older). After accounting for a host of socio-demographic and crime relevant covariates, they found that misdemeanor policing was associated with gun-related homicides at an aggregate level. When disaggregating the data by age, they found that misdemeanor policing was only influential among those 35 and older. Initial models indicated that misdemeanor policing was also relevant for 25 to 34 year olds; but these effects dissipated after accounting for additional covariates. These results suggest that the group that experienced
the greatest decline (15 to 24 year olds) in homicides was not influenced by misdemeanor policing and that the impact of specific changes and strategies may vary by demographic groups.

Order-Maintenance Policing and Physical Disorder. Theoretically, order-maintenance policing is meant to increase physical order and demonstrate intolerance for crime. Researchers and policymakers have criticized the implementation of broken windows theory by stating that order-maintenance policing is not necessarily being implemented in disordered neighborhoods but in disadvantaged neighborhoods with greater minority populations. Several studies have evaluated whether order-maintenance policing is more prevalent in disordered neighborhoods (Cerdá et al. 2009; Geller, 2007; Rosenfeld et al., 2007).

Rosenfeld et al. (2007) found that, initially, precincts with more disorder (measured as citizen complaints of misdemeanors and ordinance violations) were the target of order-maintenance policing and order-maintenance policing resulted in lower robbery and homicide rates. However, over time, order-maintenance policing grew to be more present in disadvantaged and high minority neighborhoods, rather than disordered neighborhoods.

Cerdá et al. (2009) conducted a spatial analytic test between misdemeanor policing, physical disorder (measured as the percent of clean sidewalks), and gun-related homicide rates. Results indicated that misdemeanor policing led to a reduction in homicide rates. Further, increased misdemeanor policing resulted in increased, rather than decreased, physical disorder. Physical disorder was unrelated to homicide rates. The authors suggested a reverse causal relationship, whereby physical order, rather than disorder, may increase demand for misdemeanor policing.

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Note: In a more recent publication, Kelling stated he did not focus on physical disorder but social disorder (Wilson & Kelling, 1982; Bratton et al., 2004).
Geller (2007) found that after controlling for neighborhood level variables, no relationship existed between disorder and violent crime including rapes, robberies, and assaults. This study assessed disorder using both resident and surveyor perceptions. She indicated that disorder and crime may be reciprocally linked rather than causally linked. Lastly, the closing of nuisance abatements\(^3\) (a potential proxy for disorder) from 1995 to 2000 in Queens was related to decreased property crimes and robberies (McCabe, 2008).

**Order-Maintenance Policing and Clearance Rates.** Police officials and policymakers contend that an added benefit of order-maintenance policing is bringing into custody criminals at large or individuals who may be able provide information on more serious crimes. Though not conducted in NYC, research has found a positive relationship between misdemeanor policing and clearance rates for burglary, a marginal relationship with MVT, and no relationship with robbery, assault and other violent crimes (Jang, Hoover, & Lawton, 2008). This area of research remains relatively unexplored, with no studies examining clearance rates in NYC.

**Stop, Question, and Frisk.**

Stop, question, and frisk (SQF) is an integral part of the NYPD crime control strategy. One goal of SQF is to remove guns from the streets and catch individuals who are at large for more severe offenses. Research on SQF has been based on UF-250 forms.\(^4\) An officer is required to fill out this form if: (1) the stop involves the use of force, (2) a frisk or more extensive search is conducted, (3) the stop results in a arrest, or (4) if the person refuses to identify him or herself.

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3 This study did not actually conceptualize nuisance abatements as physical disorder.

4 Included in the worksheet is whether (1) the person was carrying an object in plain view that was used in commission of a crime, (2) the person fits the description, (3) the actions are indicative of “casing” a victim or location, (4) the actions are indicative of acting as a lookout, (5) there is a suspicious bulge/object, (6) actions are indicative of engaging in drug transaction, (7) there are furtive movements, (8) actions are indicative of engaging in violent crimes, and (9) the person is wearing clothes/disguises commonly used in commission of crimes.
These forms are not filled out for every SQF and not necessarily always completed even when the above conditions are met. Currently, this is the sole mechanism for monitoring SQF.

Jones-Brown, Gill, and Trone (2010) found that the annual number of stops tripled from 2003 to 2008. Further, based on national estimates provided by the Bureau of Justice Statistics, NYC conducted more SQF than predicted in 2006 (Ridgeway, 2007). Even though stops have increased substantially, the efficiency of stops in producing arrests has declined from 1999 to 2006 (Fagan, Geller, Davies, & West, 2009). Some of this increase in SQF activity may be related to greater administrative compliance with filling out the UF-250 forms, while some may be part of the post 9/11 vigilance (Smith & Purtell, 2008).

*Stop and Frisk and Socio-demographics.* The five NYC police precincts that reported the greatest number of stops are Upper East Side/East Harlem (23rd); Ocean Hill-Brownsville, Brooklyn (73rd); East New York, Brooklyn (75th); Bedford-Stuyvesant, Brooklyn (79th); and Jamaica, Queens (103rd). All five precincts have a high representation of minorities and are generally disadvantaged communities (Jones-Brown et al., 2010). Those precincts with the highest minority populations had the highest stops for Blacks and Hispanics, but precincts with the lowest minority populations, still had higher than predicted stops, based on their population percentages, for Blacks and Hispanics (Fagan & Davies, 2000; Fagan et al. 2010). Geller and Fagan (2010) noted similar racial disparities in marijuana enforcement activity. They found that street stops for marijuana were more prevalent in precincts with large Black populations, controlling for local crime and socioeconomic conditions.

Studies have found that Blacks and Hispanics were more likely than Whites to be stopped (Fagan & Davies, 2000; Jones-Brown et al., 2010), even after accounting for population estimates and race/ethnic specific crime rates (Gelman, Fagan, & Kiss, 2007). However,
Hispanics were not over-represented in stops based on estimates of race/ethnic specific arrests and suspect descriptions (Ridgeway, 2007). Lastly, stops for Black suspects failed to meet the legal standard for reasonable suspicion more often than did stops for Whites (Fagan & Davies, 2000).

Racial differences also exist on outcomes of SQF such as an arrest or the issuing of a summons. Data from 1998 to 1999 indicated that hit rates (stops leading to arrests) varied by race-ethnicity, with stops being more "efficient” for Whites than for Blacks and Hispanics (Gelman et al., 2007). Data from 2009 indicated that outcomes for Whites (arrests, summons) were similar to those for Black and Hispanics, combined (Jones-Brown et al., 2010). Lastly, Ridgeway (2007) found that White suspects were more likely to be issued a summons than nonwhite suspects. But nonwhites were more likely to be arrested and to experience force compared to Whites. These varied results may indicate temporal differences in SQF activity.

SQF and Crime Rates. Only one study has examined the association between SQF and crime rates (Smith & Purtell, 2008). Results found that SQF reduced city wide rates of robbery, burglary, and MVT from 1997 to 2006. This study, however, did not account for any socio-demographic factors or other crime relevant covariates.

COMPSTAT.

COMPSTAT has varying definitions and perceived uses. Some view it purely as a Geographic Information Systems (GIS) innovation that maps areas high in crime; others see it as a management system with built in assessment and accountability (Moore, 2003). The more general consensus is the latter. As such, this review focuses on COMPSTAT as a management tool. COMPSTAT was developed by Jack Maple for the NYPD and is based on four essential

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5 It is unclear whether COMPSTAT stands for “compare statistics” (Eterno & Silverman, 2005) or “computerized statistics” (Bratton & Smith, 2001).
concepts: (1) accurate and timely information available at all levels of the organization; (2) rapid deployment of personnel and resources; (3) effective tactics to tackle specific problems; and (4) relentless follow up and assessment. Prior to COMPSTAT, the NYPD had approximately a three to six month lag in crime statistics (Eterno & Silverman, 2005); now data are available on a weekly basis. Precinct commanders and other officials of the NYPD meet weekly to discuss recent crime trends, identify ways to reduce high crime rates, and hold precinct commanders accountable for their jurisdiction. Indeed, COMPSTAT may have changed the NYPD from a reactive department to a more proactive and accountable department (Dixon & Maher, 2005).

Proponents of COMPSTAT have contended that the crime reducing abilities are undeniable (Smith & Bratton, 2001). They have also argued that the value of this management style is exemplified by its subsequent success with both the Department of Corrections and the Department of Parks and Recreation (PARKSTAT). After adoption, Riker’s Island went from one of the most violent jails in the country to one of the safest. PARKSTAT doubled the number of areas within NYC parks that are considered clean and safe (Smith & Bratton, 2001). However, some empirical studies have failed to replicate COMPSTAT’s crime reducing abilities (Eck & Maguire, 2006; Rosenfeld et al., 2005).

COMPSTAT has gained tremendous popularity in the policing world and has been adopted by several national and international police agencies (Bowling, 1999; Dixon & Maher, 2005; Weisburd, Mastrofski, McNally, Greenspan & Willis, 2003). Many departments have adopted COMPSTAT, without questioning its crime reduction power or making necessary alterations to fit local needs and organizations (Willis, Mastrofski, & Weisburd, 2007). This widespread adoption serves to legitimize an otherwise empirically unsupported program.
Some studies have identified weaknesses and problematic implications of this management model. For instance, Eterno and Silverman (2005) conducted a survey of officers and found that a pure focus on numbers as well as an emphasis on command and control can alienate some officers. Further, lower line officers were rarely held accountable and thus were not as invested in COMPSTAT policing. Those held more accountable within a precinct (e. g., anti-crime, specialized assignments) were more likely to use illegal means to alter crime numbers, when presented with hypothetical scenarios (Eterno & Silverman, 2005). A survey of retired NYPD members echoed these results (Eterno & Silverman, 2010). Retired officers reported greater pressure to increase summonses, increase arrests, decrease index crimes, decrease other crimes, downgrade index crimes to non-index crimes, improve quality of life, decrease civilian complaints, and increase stop and frisk reports after COMPSTAT was implemented. According to Eterno and Silverman (2010), this was accompanied with a lower demand for integrity in crime statistics. Over half the retired officers observed highly unethical changes in crime reports post-COMPSTAT. The organizational pressure to contain crime and an overemphasis on numbers may have forced commanders and officers to engage in unethical practices of downgrading and reclassifying crime (Eterno & Silverman, 2005; 2010). Further research is needed to determine whether such practices may distort overall or precinct-level crime trends.

*Hot Spots Policing.*

Hot spots policing entails targeting law enforcement efforts to high crime geographic locations. In 2003, the NYPD initiated Operation Impact, which sent new police personnel to small geographic sub-areas, called Impact Zones (Smith & Purtell, 2007). Impact Zones were chosen based on a disproportionate amount of crime that is concentrated within a few square
blocks. Zones varied in number and location; some were within precincts, while others were across precincts. A sub-variation of Operation Impact, Operation Trident, was used in East New York where crime patterns were more diffuse.

Smith and Purtell (2007) evaluated the effects of Operation Impact, Trident, and special versions of Impact in two Bronx precincts on crime rates. From 2003 to 2006, Impact Zones were present in 30 of the 76 precincts at some time point. Using precinct level data from 1999 to 2006 and an interrupted time series model, they found a significant decline in rates of homicide, rape, robbery, assault and grand larceny but not burglary and MVT. The study did not include socio-demographic or crime relevant covariates, making it difficult to rule out competing explanations.

**Police Manpower.**

The Safe Streets, Safe City program in 1991 created tax funds to hire new police officers in an effort to reorganize and expand the NYPD (Vitale, 2005). These funds provided Mayor Giuliani and Commissioner Bratton the necessary manpower to implement their new policing strategies, including order-maintenance policing (Vitale, 2005). During the 1990s the number of full time police officers grew from 39,400 to 53,000, a 35 percent increase in police employment (Zimring, 2007). However, at the national level and within NYC there does not appear to be a consistent association between police manpower and decreased crime rates (Cerdá et al., 2010; Corman & Mocan, 2002; 2005; Eck & Maguire, 2006; Messner et al., 2007; Rosenfeld et al., 2007; Zimring, 2007).

**City Level Analyses.** Fagan et al. (1998) indicated a negative correlation between manpower and homicide, but they did not control for other variables. Corman and Mocan (2000), using monthly time series data from 1970 to 1996 and controlling for felony arrests, drug use,
and poverty, found police manpower to decrease burglary and robbery rates but not homicide, assault and MVT rates. Using similar data from 1975 to 1999 and controlling for misdemeanor arrests, unemployment, prison population and youth population, Corman and Mocan (2002; 2005), found police manpower to decrease MVT and grand larceny rates but not homicide, assault, robbery, burglary, and rape rates. Hence, the inclusion of additional covariates changed the relationship between police manpower and criminal outcomes at the city level.

Precinct Level Analyses. Studies that accounted for a range of covariates and examined changes in rates, rather than absolute levels, indicate that police manpower impacted 1990s robbery rates but not homicide rates (Cerdá et al., 2010; Messner et al., 2007; Rosenfeld et al., 2007). Further, Rosenfeld et al. (2007) found an indirect effect of police manpower on homicide rates that operated through order-maintenance policing. Precincts with more police had higher arrest rates for misdemeanors and ordinance violations which, in turn, were associated with lower rates of homicide and robbery.

Combined NYPD Strategies. Some authors have argued that the range of NYPD strategies did not result in the NYC crime decline, given that corresponding decreases occurred in cities that did not employ such tactics (Beckett & Godoy, 2009; Joanes, 2000). At a national level, Joanes (2000), using cyclical analyses, argued that the NYC homicide decline was no greater than other cities implementing a variety of other policing strategies. As such, the NYPD policing strategies cannot be the primary cause of the crime decline. On the other hand, Zimring (2007) argued that the changes in police manpower, aggressive policing, and COMPSTAT conjointly produced one quarter to one half of the crime decline in 1990s. For the 1990 to 2009 time span, he stated that hot spots policing and destruction of public drug markets were effective; increased manpower, COMPSTAT
management and mapping, and gun programs were probably effective, and the impact of stops and aggressive arrests remain unknown.

At an international level, Beckett and Godoy (2009) qualitatively compared NYC to Bogotá, Columbia. Both cities based their crime control strategies on broken windows theory but the implementation was decidedly different. Similarities included an increase in police budget, use of crime analytic techniques (e.g., COMPSTAT), improvement in crime data, emphasis on police accountability, and an attempt to reduce guns in the community. Differences in Bogotá included shifting police posts, rather than hiring new officers, asking citizens to volunteer their firearms, and not criminalizing homelessness, prostitution, and possession of small amounts of controlled substances. Indeed, NYC’s arrest rate for minor crimes was 2.5 times that of Bogotá. Beckett and Godoy (2009) argued that zero tolerance policing, an increase in the police force, and a reduction in government expenditures, especially on programs that serve the poor, results in unnecessary collateral damage. Indeed, rather than criminalizing marginalized groups (e.g., the homeless, sex workers, drug users) in Bogotá, they were the focus of social policies. In addition, public services such as transportation and education were altered and strengthened. In this city, “broken windows” was seen as a "call for investing in that which is public” (p. 283) rather than criminalizing the poor. The authors concluded that Bogotá experienced a similar crime decline to NYC without the collateral damage.

Using a more rigorous test, Rosenfeld et al. (2005) compared the COMPSTAT package to Boston’s CEASEFIRE and Richmond’s EXILE. They found that without covariates COMPSTAT appeared more promising in decreasing homicide relative to national trends. However, after accounting for relevant covariates (i.e., incarceration rate, police density, drug

6 Notably, initial strategies in Bogotá did include aggressive policing. However, this was part of a larger set of initiatives which, over time, decreased the criminalization of marginalized groups.
use, resource deprivation, and population density), NYC’s homicide decline was not significantly different from other urban homicide trends. Hence, COMPSTAT was not influential in decreasing NYC homicide rates after accounting for covariates.

Community policing.

Community-oriented policing (COP) is “collaborative” – police officers work closely with the community to find local solutions to local problems. It focuses on community-police partnerships, decentralizes the police department, increases community involvement by police officers, provides greater discretion to individual officers, and incorporates strategies such as foot patrol (Joanes, 2000). While most would agree that effective crime reduction should be based on community partnerships, research has found little evidence to support the effectiveness of COP (Eck & Maguire, 2006; Smith & Bratton; 2001; Travis & Waul, 2002). However, research has mainly focused on COP processes such as implementation rather than crime outcomes (Pate & Shtull, 1994).

COP was initiated as a policing strategy in the 1980s when police began to realize that: (1) citizen input was valuable, (2) there was considerable tension between communities and the police, and (3) there were significant criticisms about reactive policing strategies such as 911 responding (Smith & Bratton, 2001; Joanes, 2000). In 1984, the city set up a demonstration project, the Community Patrol Officer Program (CPOP), in the 72nd precinct in Brooklyn. By 1989, even though COP was not the leading philosophy, each precinct had a CPOP unit (Smith & Bratton, 2001). Analysis of CPOP among six precincts indicated that there was no impact of CPOP on robberies, burglaries and calls for service in the second year of operation. The authors concluded that these results are not necessarily discouraging, given that these offenses were not the focus of these precincts (McElroy, Cosgrove, & Sadd, 1990). In 1992, the NYPD sought to
implement CPOP more holistically and made the 72nd precinct a model precinct (Pate & Shtull, 1994). The evaluation indicated that the program had limited success.

Shortly thereafter, Commissioner Bratton’s changes were implemented. According to Smith and Bratton (2001), NYC enhanced COP with problem solving policing and conducted “problem solving community policing.” This new version of policing focused on precincts, with the primary actors being precinct commanders rather than street level police officers (Smith & Bratton, 2001).

It is debatable whether COMPSTAT and COP can be implemented simultaneously. Willis et al. (2007) indicated that they are competing approaches that do not generally complement one another. Indeed, one strategy focuses on community partnerships and service while the other focuses on crime control through aggressive policing tactics. Others have argued, however, that COP is compatible with aggressive policing in that the police work with communities while targeting misdemeanor crimes (Firman, 2003; Smith & Bratton, 2001).

Antiterrorist policing.

September 11th substantially shifted the priorities and tasks of the NYPD. After 9/11, Commissioner Raymond Kelly made major structural changes to the NYPD to create a new and stronger counterterrorism presence within the department. He created the NYPD’s Counterterrorism Bureau (CTB), which focuses on examining terror links and works closely with the FBI Joint Terrorism Task Forces. He also enhanced the Special Operations Division (OD), a unit that focuses on protecting potential terrorism targets in NYC. The OD works closely with the U.S. Coast Guard and the NYC Department of Health and is the link between executive command and street level police, helping to keep communication flowing between the various counterterrorism units and street officers (Holden, Murphy, Brito, & Ederheimer, 2009).
Bornstein (2005) argued that a significant shift occurred after 9/11 both in public attitudes toward the NYPD and in the strategic focus of the department itself. For instance, post 9/11 community members were filled with gratitude and adoration for the NYPD. At the same time, policing shifted to include a more heavily armed, military type presence in the city. Resources shifted to antiterrorist hotline campaigns, counterterrorism centers, antiterrorist detectives and recruitment of Arabic speaking officers. Terrorist profiling and terrorism drills became a part of training. Under the premise of safety, illegal immigrants, legal immigrants, and people of Middle Eastern descent became targets of increased scrutiny, with the NYPD having more connection with the Immigration and Naturalization Service (INS) and more power to secretly investigate and disseminate information to other agencies under the Patriot Act (Bornstein, 2005). Arguably, the new marginalized population shifted from Black minority youth to those of different racial/religious backgrounds, namely Arabs and Muslims (Bornstein, 2005). The net for “suspicious” individuals may have widened or shifted as a result. The consequences of these strategies on crime rates warrant research attention.

**NYPD Strategies and Collateral Consequences.** Several collateral consequences may have resulted from the use of aggressive policing tactics, including civil rights abuse, distrust of police, resentment by minorities, lower police legitimacy, and even an increase in crime rates. Indeed, Meares (1998) stated that the negative effects of aggressive policing can overpower the positive effects when it creates significant damage to family ties, obstacles to entering labor markets, and increases in alienation and distrust among disadvantaged and minority populations. Citizen complaint rates have corroborated the downside of order-maintenance policing. Initiation of order-maintenance policing was accompanied by a 75 percent increase in citizen complaints from 1994 to 1998 (Greene, 1999). Further, reported violations were disproportionately
concentrated in high crime, minority neighborhoods, with nine of the 76 precincts accounting for more than 50 percent of the increase in complaints (Greene, 1999).

Qualitative studies have found that negative interactions between the police and citizens can indeed create a feeling of helplessness, resentment, and anger among disadvantaged minority groups. From 1995 to 1998, Wilkinson, Beaty, and Lurry (2009) conducted interviews with 416 NYC violent offenders aged 16 to 24 from East New York and Mott Haven (South Bronx). Focusing on the perceptions of Black youth, five themes emerged from these interviews: (1) nothing can be done to protect these youth from violence; (2) police and criminal justice authorities are corrupt, racially biased, class biased and serve to repress minority youth by using brutality, racially motivated harassment and profiling, planting evidence, not investigating cases, and being disrespectful; (3) police are not capable of and do not have a desire to protect people in the youth’s neighborhoods; (4) youth use violence as retaliation for injustices rather than allowing the criminal justice system to intervene; and (5) paradoxically, the youth want the “right” type of police presence within their neighborhoods, officers who can help them rather than hassle them. Hence, according to these youth, policing resulted in greater violence because of their inability to rely on law enforcement.

While the above study was conducted only with Black youth, Wilkinson et al. (2009) noted a similar pattern of results among Latino youth. Another recent study of 18 to 19 year old Latino youths also found unfavorable views of local police (Solis, Portillos & Brunson, 2009). These youth expressed a lack of trust in the police and a lack of desire to provide information regarding crime, thereby impeding future crime control and police community relationships. During stop and frisk encounters, youth described racial/ethnic profiling as well as openly disrespectful behavior. Solio and colleagues (2009) indicated that additional factors that may
come into play for Latinos are immigration status and language barriers. As such, monitoring of undocumented immigrants casts a wide suspicion on Latinos in general and increases perceptions of racial/ethnic profiling. These qualitative studies give a paradoxical message of both over- and under-enforcement in minority communities: over-enforcement with regard to harassment and racial/ethnic profiling and under-enforcement with regard to protection and help.

Quantitative analysis of a survey of NYC residents partially supported these qualitative results. NYC residents who believed that racial profiling was widespread were more likely to (1) be non-white, (2) have had a bad encounter with the police, (3) have a higher income, (4) be employed, (5) be educated and (6) be female (Reitzel & Piquero, 2006). Further, those who believed they were personally racially/ethnically profiled were more likely to be non-white, male, have a bad experience with the NYPD, and felt disrespected by the NYPD.

Empirical evidence also supported the relationship between aggressive policing and increased crime rates. Kane (2005) examined NYC police precincts in the two lowest quartiles of income – extremely and highly disadvantaged communities relative to low disadvantaged communities. He found that over-policing occurred more often in extremely and highly disadvantaged communities relative to low disadvantaged communities. Further, police misconduct and over-policing were predictive of violent crime rates in extremely disadvantaged communities, whereas only police misconduct was predictive in highly disadvantaged communities. No relationship existed among the policing tactics and crime rates among low disadvantaged communities. He also found a curvilinear relationship between violent arrests per officer and burglary and robbery rates, indicating that deterrence effects reach a certain threshold and then no longer serve to suppress burglary or robbery (Kane, 2006). These results further support the notion that over-policing can have negative effects.
Order-maintenance policing and citizen complaints do not necessarily have to go hand in hand. Davis and Mateu-Gelabert (1999) found that some NYC precincts demonstrated a decrease in crime and citizen complaints after implementing misdemeanor policing. Precincts 42 and 44 of the South Bronx were two such examples. The authors believed that the commanding officers’ management style which held officers accountable for complaints, stressed the NYPD motto of Courtesy, Professionalism and Respect (CPR), prioritized community-precinct relations, and placed strong emphasis on respectful policing led to decreases in crime rates and citizen complaints. The commanders also paired young officers with attitude problems with more experienced officers, personally spoke to officers who received complaints, and generated real consequences for such complaints including reassignment and passing over on promotions.

Practitioners and proponents of order-maintenance policing have responded to concerns regarding collateral consequences and conflicting evidence regarding crime rates. Reverend Eugene Rivers argued that the use of the “race card” allows inner-city communities with high minority populations to avoid accountability, thereby impeding progress (Bratton, Wilson, Kelling, Rivers & Cove, 2004). Similarly, in response to the potential of being called a racist, George Kelling (2004) stated:

But we have an obligation to publish the truth because there is a desperate need for order in the poorest neighborhoods and communities, especially in minority communities. They can’t protect their own property, they can’t let their children play in the streets, and as a result a culture of terror develops that diminishes those communities to the point where many of them are virtually unlivable (p. 9).

Lastly, James Q. Wilson (2004) stated that even if crime did not decline from broken windows policing, public confidence and happiness increased and “the police, like all civic agencies, have a responsibility to attend to public happiness (p. 7; Bratton et al., 2004).” It is unclear whether the positive outcome of public happiness occurred as a result of order-maintenance policing.
Indeed, there appears to be a divide between the intention of law makers and the reality of those on the receiving end of these policies. It is difficult to reconcile the differences in the experiences of community members with the intentions of the policymakers.

Some scholars, such as Heather MacDonald from the Manhattan Institute, have blamed academics for the rift between community members and police and higher crime rates. MacDonald (2001) stated that “[n]early every week, police officers from across the country traipse off at taxpayer expense to sundry racial profiling conferences…to hear how racist they are…without a shred of credible evidence that so-called racial profiling is a widespread police practice (p. 2).” She further asserted that this “anti-policing” campaign has resulted in strained community police relationships and demoralized officers. In communities where the “anti-police” are particularly vocal, officers were less discretionary and crime rates have increased. As a result, it has been the minority communities and the law abiding minority citizens who reside within these communities that suffer.

Conclusions.

The most empirically rigorous studies of NYPD strategies have indicated that order-maintenance policing (measured by misdemeanor and, less frequently, ordinance violation arrests) has a modest impact on crime, particularly homicides and robberies. However, the existing research does not cover the recent period. It is unclear whether the influence of order-maintenance policing on crime rates has continued into the present, as crime rates continue to decline. While some of these strategies may have reduced crimes, invasive policing tactics may stigmatize already marginalized groups with criminal records, take them off the streets for a period of time thus impacting their employment and child care responsibilities, and burden resource depleted jails and courts with low level offenders (Johnson, Golub, & McCabe, 2010;
Karmen, 2000). As such, over time the effects of misdemeanor policing may backfire and increase rather than decrease crime. Hence, even if the order-maintenance strategies resulted in a decrease in crime, the correlates and consequences of these strategies could be problematic and include racial profiling, increased hostility among disenfranchised communities, lack of perceived procedural justice and fairness, and lastly, even greater crimes rates due to a weakening of formal and informal social control mechanisms.

**Drugs**

Goldstein, Brownstein, and Ryan (1992) suggested three ways in which drugs are related to homicides, specifically, and crime in general – psychopharmacologically (e.g., reduced inhibition), economically (e.g., money to purchase drugs) and systemically (e.g., black markets, territory disputes). In the 1980s, psychopharmacological homicides were minimal and mainly related to alcohol, not other drugs (Goldstein et al., 1992; Tardiff & Gross, 1986). Very few of the drug-related homicides were driven by economic need; most were systemic in nature with 93 percent of the systemic homicides involving crack and/or cocaine.

The link between crack cocaine and homicide substantially increased in the 1980s. In 1981, cocaine was present in less than five percent of Manhattan homicide victims, whereas in 1991 and 1992, cocaine alone, or in conjunction with alcohol, was present in 72 percent of homicide victims (Tardiff & Gross, 1986; Tardiff et al. 1995). From 1990 to 1998, homicide victims positive for cocaine fell by 13 percent, whereas the proportion of homicide victims positive for alcohol or opiates did not change significantly (Tardiff et al., 2005). When looking at a comparison group of accidental deaths, the decline in the proportion of victims positive for cocaine, alcohol and opiates was similar (Tardiff et al., 2005). Hence, changes in drug use do not explain the decline in homicide rates.
Blumstein (1995) proposed a systemic mechanism by which drug markets, particularly crack cocaine markets, may have contributed to the 1990s crime decline. The use of crack cocaine rapidly expanded from 1984 to 1986 (Johnson, Golub, & Fagan, 1995). The high demand for crack cocaine led to the recruitment of young minority males for distribution. Competition for highly lucrative areas created turf wars that led to acquisition of guns as a means of self-protection. Guns then diffused through the community at large, leading to higher rates of gun carrying for self-protection. This led to an increase in gun-related crimes. However, as demand for crack decreased, and drug markets began moving off the streets into more private spaces, crime began to decline. Notably, the transformation of drug markets was not specific to crack cocaine, as even heroin markets went from distribution in public spaces to underground places using delivery services, beeper services, and house connections located in less public, private spaces (Wendel & Curtis, 2000).

Youth were attractive as laborers in the drug markets because they worked for relatively low wages, faced more lenient penalties in the court system, and were more reliable than their adult counterparts, who were often addicted to the drugs (Travis & Waul, 2002). Youth were attracted to the drug markets because there were few other opportunities for work, there was protection on the streets from violent community members and gangs, and there was promise of money. The demographics of the crime decline favors this hypothesis, given that the increase and the subsequent decline in arrestees and victims was the most pronounced for young minority males.

City Level. Fagan et al. (1998) pointed out that homicide peaks in 1972, 1979, and 1991 mirror the drug epidemics of heroin, powder cocaine, and crack cocaine, respectively (also see Johnson, Golub, & Dunlap, 2006) suggesting that crime increases have historically been linked
to drugs and/or drug markets. In support, Karmen (2000) argued that the decline in the crack epidemic was the crucial turning point for the decline in NYC homicides. On the other hand, others have indicated that the reduction in drug markets cannot explain the larger than normal reductions in NYC crime, especially given that hospital discharge rates for cocaine overdoses is the same for the 1990s as it is for the 2000s (Smith & Bratton, 2001; Zimring, 2007). Zimring (2010) reconciled these differences and stated that NYC won the war on drug violence but not the war on drugs. Hence, the crime drop has coincided with a shift in the way drug markets are operating rather than an actual decline in drug use.

Corman and Mocan (2000) found a positive relationship between drug use and rates of robbery and burglary but not rates of homicide, assault, MVT. These authors used three different city level indicators – deaths in the city due to drug poisoning, felony drug arrests, and hospital discharge data where the primary reason was drug dependence and/or poisoning.

Precinct Level Analyses. Kelling and Sousa (2001) found no association with drug activity and a composite measure of violent crime (i.e., murder, rape, robbery, and felonious assault). However, they used police precincts as the unit of analysis for crime outcomes but used borough level hospital discharge data for drug use. This is a major limitation that calls into question the null findings.

Rosenfeld et al. (2007) found that higher rates in their drug market indicator (cocaine overdose deaths per 10,000 residents) resulted in higher robbery and homicide rates. Similarly, Messner et al. (2007) found that higher rates in their drug market indicator (change in the proportion of accidental deaths whose toxicology was positive for cocaine) was associated with aggregate homicides and gun-related homicides but not with robbery rates and non-gun related homicides. Differences in the results for robbery rates may be attributable to the use of “change”
scores for outcomes and predictors (Messner et al., 2007) versus rates for outcomes and predictors (Rosenfeld et al., 2007).

Lastly, in support of Blumstein’s hypothesis, Cerdá et al. (2010), using changes scores for both outcomes and predictors and controlling for a wide range of socio-demographic and crime relevant covariates, found their drug market indicator (change in the proportion of accidental deaths whose toxicology was positive for cocaine) was associated with 15 to 24 year old and 35 and older gun-related homicide rates. A standard deviation increase in the proportion of accidental deaths positive for cocaine was associated with 2.6 more gun-related homicides for youth (15 to 24 year olds) and 0.71 for older adults (35 and older). This suggests that drug markets played a large role in the crime decline, given that the decrease in homicide victimization was the most significant for 15 to 24 year olds.

A change in youth culture toward drugs played a significant role in the national crime decline (Barker, 2010). In NYC, Curtis (1988) described how younger cohorts who witnessed and experienced the devastating consequences of drugs, particularly crack cocaine, on their own families and neighborhoods subsequently rejected the use of hard drugs. However, initiation of hard drugs may resume once the generation forgets about these bad consequences. Until then the drug of choice by this new generation has been marijuana rather than hard drugs (Johnson et al., 2006), which has a markedly more calming effect, fewer withdrawal symptoms, and fewer addictive properties.

Profile of Drug Abusers. Johnson et al. (1995) summarized results from the Careers in Crack Project which consisted of over 1,000 drug abusers and sellers. Most of their subjects had used other illicit drugs prior to the initiation of crack, and most claimed that crack was not more addictive than cocaine, heroin, and marijuana. Those who consumed crack on a daily basis used
it more than four times a day and spent more than $1,000 per month. Sellers reported higher income from selling crack compared to other drugs and non-drug criminal activities. Most participants did not report engaging in more non-drug criminal activity after initiation of crack use, with the exception of prostitution. Crack use also did not increase the initiation of engagement in violent crime such as rape, assault or robbery. However, sale of crack was associated with various forms of violence. Persons who sold in groups were more likely to commit violence and be victimized than those who did not sell or those who sold on their own. These profiles suggest that crack selling is time-consuming and lucrative for sellers. Further, violence from crack tends to be associated with distribution rather than use.

Societal response to crack users has been punitive, rather than rehabilitative, in nature. Indeed, relative to cocaine arrests, crack arrests had a higher probability of pretrial detention, felony indictment, and jail sentences. This was the case for even lower level possession charges (Belenko, Fagan, & Chin, 1991). Research indicated that the recidivism rate for crack users who received a more severe sanction (e.g., one year in jail) was no different than among those whose cases were dismissed, while those receiving probation fared better (Belenko et al., 1991). As such, incarceration did not appear to serve as a deterrent to crime, and treatment may have been more efficient. The lack of emphasis on treatment was further exemplified by the 1986 Anti-Drug Abuse Act, which devoted only 14 percent of its funds to treatment. The remaining was devoted to policing and corrections.

Drugs and Policing.

Research has found that NYC police precincts with greater drug market activity had higher rates of order-maintenance policing, which in turn reduced homicides and robberies (Rosenfeld et al., 2007). However, research on policing aimed at narcotics has produced
divergent results. For instance, the Narcotics Initiative did not impact crime rates, controlled substance use arrest rates, or marijuana arrest rates in North Queens but reduced crime rates and increased marijuana arrest rates in Southeast Queens (McCabe, 2009). McCabe attributed these differences to the timing of the initiative (i.e., North Queens was implemented 15 months after Southeast Queens) and differences in management styles. He also found that an increase in controlled substance use arrests was associated with an increase, rather than a decrease, in crime rates including property crime, homicide, robbery, and MVT (McCabe, 2008). On the other hand, increases in marijuana arrests were associated with decreases in rates of violent crime, property crime, robbery, burglary, grand larceny and MVT but not rates of homicide, rape, and assault. As such, the relationship between drug enforcement and crime rates is not clear cut and requires further empirical inquiry.

*Alcohol.* As noted earlier, alcohol is related to homicide more often through psychopharmacological effects. That is, alcohol can make a person more belligerent, more disinhibited, and more vulnerable to become a target of crime (Karmen, 2000). Karmen (2000) noted that the consumption of hard liquor decreased from the mid-1980s to the mid-1990s and this could account for some of the decrease in homicide rates. In support, Cerdá et al. (2010) found that increased alcohol consumption was associated with increased homicide victimization among 25 to 34 year olds. Further research is needed to evaluate the link between alcohol consumption trends and NYC crime decline.

*Conclusions.*

The movement of the distribution of illicit drugs, particularly crack cocaine, from open air drug markets to indoor, more discreet selling appears to be related to a decrease in crime, particularly for rates of homicide and robbery. This influence seems to be the greatest for 15 to
24 year olds, those most likely to be victims of homicide during the 1990s. It seems that the transformation in the youth culture and reduced use of crack among younger generations further reduced the reach and influence of crack cocaine markets. Given that drug distribution remains relatively discreet compared to late 1980s and early 1990s, drug markets may have less influence on crime rates post-2000. Lastly, alcohol consumption, though relatively underexplored, may have also played a significant role in the crime decline.

**Gun Availability**

There was an increase in gun-related homicides from the early 1980s to the early 1990s (Tardiff & Gross, 1986; Tardiff et al., 1994; Tardiff et al., 1995). In 1981, 59 percent of homicides in Manhattan were gun-related (Tardiff & Gross, 1986). A decade later, gun-related homicides accounted for 73 percent of all homicides in NYC (Tardiff et al., 1994). Interestingly, non-gun homicides began declining in the 1970s and continued on this path well into the mid-1990s, while gun-related homicides increased steadily until 1993 (Bowling, 1999; Fagan et al., 1998). Further, an increase in gun-related homicides was related in timing and magnitude to gun-related assaults, indicating that guns were becoming prevalent in other criminal activities (Fagan et al., 1998). Conversely, non-gun homicides were not related in any discernible patterns to non-gun assaults. These results point to the integral role that guns played in the crime increase.

Obtaining hand guns in NYC is relatively difficult and the NYPD has been criticized for being too demanding (Cook, Ludwig, & Samaha, 2009). License applications are forwarded to the NYPD and the department locally screens and conducts inspections. This significantly reduced the number of licensed gun holders in NYC in the latter part of the 1990s (Wintemute, 2006).
Smith and Bratton (2001) stated that the number of guns used in criminal activity declined substantially once Bratton took control and initiated the “getting guns off the streets” strategy. Beginning in 1994, the Street Crime Unit of the NYPD aggressively targeted gun crime and in three years, the NYPD made over 40,000 gun arrests and confiscated over 50,000 guns (Wintemute, 2006). However, Wintemute (2006) argued that it is unclear that the unit’s tactics were necessary for crime reduction, given that nearly half the cases brought in by the unit were dismissed (Marzulli & Rashbaum, 1999 as cited by Wintemute, 2006).

A qualitative study with offending youth in NYC from 1995 to 1998 found that the great majority, 95 percent, of their peers possessed a gun, citing protection and involvement in drug trade as the most prevalent reasons for carrying guns. Seventy nine percent of the respondents stated that their peers used a gun during a crime, with the most common crime being robbery (82 percent) and most of the peers were arrested for a gun-related offense (86 percent). This study highlights the intricate link between guns and the drug markets, the peer/social context within which gun violence occurs, and the need to have guns for self-protection in high crime neighborhoods (Wilkinson, McBryde, Williams, Bloom & Bell, 2009).

Studies controlling for a wide range of socio-demographic and crime relevant variables found that gun availability, measured as the proportion of gun-related suicide deaths, was not associated with robbery rates, gun-related homicide rates, and non-gun related homicide rates (Cerdá et al., 2009; 2010; Messner et al., 2007). Though there appears to be no direct link between gun availability and homicide rates, indirect effects through reduced drug market activity may be present. That is, reduced gun availability may be associated with lower drug violence which in turn is associated with reduced crime rates. This has not been investigated.

**Incarceration**
Incarceration may impact crime rates via two methods: incapacitation and general deterrence. The national prison population increased fourfold from 1970 to 2007 (Barker, 2010). Some studies have shown that, at the national level, about one quarter of the drop in violent crime can be attributed to increased rates of imprisonment (Rosenfeld, 2006; Spelman, 2006; Travis & Waul, 2002; Zimring, 2007). However, prisons may have reached a point of diminishing returns; violent offenders are likely incarcerated through aggressive policing and remain incarcerated through increased prison sentences (Rosenfeld, 2006; Spelman, 2006; Travis & Waul, 2002). Continued expansion may not be an effective or efficient way to reduce crime.

In New York State, the inmate population tripled from 1978 to 1998 (Karmen, 2000). In 1997, on average, 6 percent of NYC’s Black males between 18 and 60 years of age were in a city jail or state prison (Karmen, 2000). Even with these high numbers, the city’s level of incarceration was below national levels (Karmen, 2000; Zimring, 2010). Smith and Bratton (2001) noted that after Bratton’s appointment misdemeanor policing increased and these arrests rarely led to incarceration. As such, incarceration did not increase substantially at the time of the crime decline. Others have reached a similar conclusion regarding the lack of impact of incarceration on NYC homicide rates (Fagan et al., 1998).

However, at a city wide level, Corman and Mocan (2005) found that the size of the prison population was related to a decline in rates of homicide, robbery, burglary, rape and MVT. Within city, using precincts as the unit of analyses, paints a different picture. After accounting for a host of covariates, studies have found that prison admissions and the imprisonment-felony ratio were unrelated to homicides, both gun and non-gun related as well as robbery rates (Cerdá et al., 2009; Messner et al., 2007; Rosenfeld et al., 2007).
Alternatively, Cerdá et al. (2010) found that incarceration may actually have a detrimental impact on gun-related homicide trends. Controlling for a wide range of covariates, they found that increased incarceration rates were associated with increased 15 to 24 year old gun-related homicide rates. Hence, increased incarceration may have the opposite effect among a group most likely to be victims of homicide. This is consistent with research by others who have found that increasing prison populations may increase, rather than decrease, crime (Clear, 2007; Fagan, West, & Holland, 2003; 2004; Rose & Clear, 1998).

The deleterious effects of incarceration can occur via multiple pathways. First, at an individual level, it can reduce employment opportunities, lower wages, and decrease social support. Second, at a neighborhood level, it can increase residential mobility and weaken collective efficacy. Third, at a macro level, incarceration and prison expansion comes at the cost of other systems. For instance, building prisons in New York State comes at the expense of funding the education system, particularly higher education (Gangi, Schiradli & Ziedenberg, 1998). In the past, New York State spent twice as much on universities than on prisons. This trend has reversed and by 1998 New York State spent more on prisons than on higher education (Gangi et al., 1998).

**Economic Conditions**

The economy can impact crime via two pathways (Grogger, 2006; Zimring, 2007). First, it can increase income through antisocial acts of burglary, robbery, and MVT. Second, unemployment and poverty may provide ample amounts of unstructured time and/or greater exposure to criminal opportunities. Bowling (1999) indicated that the rise in crime was the result of economic deprivation, the sense of hopelessness created by it, and subsequent opportunities provided by drug markets. Hence, the economic expansion of the 1990s may have decreased
motivation to engage in crime given the increased opportunity for legitimate money making and decreased time available to engage in antisocial behaviors (see Rosenfeld & Fornango 2007; Rosenfeld 2009).

At a national level, estimates of the economic impact on property crimes range from 6 percent to 40 percent (Zimring, 2007). Real wages declined for inner city youth from $9.00 an hour in 1979 to $6.74 in 1993 (Travis & Waul, 2002). As such, more young people selected drug selling relative to working in the legitimate economy. In 1992, economic expansion increased wages and the violent nature of drug markets raised the cost for its distributors (Grogger, 2006). Hence, the economy may have played a crucial supporting role in the crime drop by both making it easier for young men to leave the drug markets and making it more difficult to recruit others into drug markets.

However, according to Zimring (2010) unemployment and poverty do not explain the unique decline in NYC, given that both were above the national average from 1990 to 2009. Indeed, the booming economy of the 1990s did not alleviate or assist about one quarter of the city’s population, especially those in dire need, though it benefited Hispanic males more than Black males (Karmen, 2000). But it is possible that the impact of poverty and unemployment may have been more indirect. The demand for educated laborers may have inspired youth to get an education, allowing these individuals to participate in the expansion later in the 1990s (Karmen, 2000). Smith and Bratton (2001) argued that the economy improved after crime rates improved, not the other way around, indicating a different causal relationship.

At a city wide level, Corman and Mocan (2000) found that an increase in the growth rate of poverty generated an increase in the growth rate of homicides and assaults. Corman and Mocan (2002; 2005) also found that an increase in minimum wage reduced rates of robbery,
homicide, and grand larceny and higher unemployment resulted in increased rates of burglary and MVT.

Research has been mixed on whether concentrated poverty, unemployment, and neighborhood disadvantage were associated with homicide and robbery rates, with some studies indicating a significant relationship (Fagan & Davies, 2005; Messner et al., 2007; Rosenfeld et al., 2007) and other studies indicating no relationship (Cerdá et al., 2009; 2010). However, research has found that the availability of public assistance decreased gun-related homicides among 25 to 34 year olds (Cerdá et al., 2010). More rigorous research, focusing on NYC, is needed in this area to help reconcile these varied findings.

**Demography**

A demographic approach to crime rates asserts that certain groups are more violence prone – males, youth and minorities. Hence, population rates of these cohorts can influence aggregate crime trends. While demographers were able to reliably predict population projections, the projections were not necessarily predictive of crime rates (Blumstein & Wallman, 2006; Fox, 2006). At a national level, demographic trends offered a partial explanation for the crime drop in the 1990s (Fox, 2000); and accounted for about 10 percent of the decline in violence since the mid-1990s. However, the crime surge of the late 1980s and early 1990s occurred when the size of the most crime-prone age group (18 to 24 year olds) was declining. Further, predictions of an increase in the size of the high risk group post-2000 did not result in an increase in crime. Zimring (2010) argued that the crime prone age bracket of 15 to 29 does not explain NYC’s unique crime decline. Similarly, Bratton and Smith (2001) argued that the 15 to 19 year old bracket declined from 1970 to 1990 by 22 percent, as crime rates were increasing.

**Housing**
The housing market in NYC is unique compared with the rest of the country. Although housing prices vary by borough, it is difficult to find and afford housing in the city. Affordable and adequate housing can reduce crime rates by allowing residents to increase social cohesion and control by lowering economic hardships and increasing social support (Barker, 2010; Sampson & Raudenbusch, 1999). In 1985, NYC announced the Ten Year Capital Plan for Housing with the goal of building 252,000 housing units in the city’s poorest and most devastated neighborhoods. The idea was to create housing for low and moderate income families as well as the homeless, with the subsequent benefit of revitalizing neighborhoods. Research has found that this plan indeed generated positive “spillovers” (increases housing prices in nearby properties) and neighborhood revitalization (Ellen, Schill, Schwartz, & Voicu, 2003). Fagan and Davies (2007) found that the neighborhoods with the most violence experienced the largest improvement in housing conditions and sharpest gains in housing prices. However, the housing market in NYC’s most violent neighborhoods was changing prior to the 1990s crime decline.

Though not focused on NYC, recent research has found that high rates of neighborhood foreclosures were related to higher crime rates (Bess, 2008; Whitworth 2008). Further, Tuthill (2008) hypothesized that high rates of foreclosure, associated with the subprime mortgage crisis, will weaken community and social ties, as residents leave. After residents leave, service based businesses will leave and there will be a decrease in community investment, leading to both social and physical disorder (Tuthill, 2008). Further empirical inquiry is necessary to test the association between housing and crime rates in NYC.

Lastly, in 1990, NYC launched a Drug Elimination Program (DEP) aimed at reducing drug related activity in public housing (Fagan, Davies, & Holland, 2006). This program included a host of interventions including drug treatment, gang outreach, career training, increased police
surveillance, and lighting improvements, resulting in an investment of about $165 million over seven years (Fagan et al., 2006). Using precinct, census and public housing data from 1985 to 1996, Fagan and colleagues (2006) evaluated the relationship between the DEP and crime rates. Their results demonstrated decreased crime rates for the surrounding census tract and police precincts but not for the actual public housing units. Reductions in violent crimes including homicides were mainly attributable to increased law enforcement from the DEP, whereas precinct reductions in property crimes were attributable to both law enforcement and tenant patrols. The majority of DEP funds went to law enforcement. As such, non-law enforcement strategies focused solely on public housing received a diluted dose of funding and may have been ineffectual as a result.

**Other Explanations**

*Abortion*

Donohue and Levitt (2001) indicated that half the drop in youth crime is the result of legalized abortions. They argued that abortions reduced the number of unwanted children born to mothers in unfavorable conditions, ultimately reducing the number of people that would have engaged in criminal activities. The empirical evidence behind this argument has been questioned by several economists and criminologists (see Zimring, 2007).

*Community Corrections.*

In 2001, about 1700 prisoners a day were released back into the community nationwide (Travis & Waul, 2002). Most of these ex-prisoners have not completed high school, have limited vocational skills, and have extensive substance use histories. Consequently, rearrest rates for ex-prisoners were high (Travis & Waul, 2002; Wallman & Blumstein, 2007). Enhanced focus on parole and probation services as well as on drug treatment is crucial to reducing these rates.
Further, other factors that may help include lowering parole and probation caseloads, increasing contact for select high risk parolees and probationers, and meeting with police and community members that have gangs to discuss supervision strategies (Travis & Waul, 2002). An evaluation of parole and probation strategies in NYC is necessary to determine best practices in re-entry services and their relation to crime rates.

*Education.*

Karmen (2000) argued that young people enrolling and staying in school was crucial to the NYC crime decline. The creation and affordability of the City University of New York (CUNY) system provided many first generation students with the ability to attend college, making it a turning point for many NYC youth. Additional research accounting for competing explanations is necessary to support this claim.

*Immigration*

Scholars have asserted that the increase in Latino and Asian immigrants, with socially cohesive families and neighborhoods, cultural norms against violence, and social stability may have counterbalanced the negative neighborhood factors in NYC during the 1990s (Barker, 2010; Karmen 2000). This stability may have prompted economic growth and urban renewal in immigrant dense neighborhoods (Sampson, 2008). While immigration may have played a prominent role in NYC crime decline, few empirical studies exist to test this notion.

*School Initiatives*

In 2004, Commissioner Kelly, in conjunction with Mayor Michael Bloomberg announced the New York City Impact Schools Initiative. This Initiative extended the broken windows approach to NYC schools. The goals were to increase enforcement against low level student crimes, enforce the NYC public school discipline code, and correct early conditions that lead to
disorder. As such, these schools received additional security officers, doubled the number of NYPD police officers, and were given priority for access to the Attendance Improvement Dropout Prevention Program.

Using the principles behind COMPSTAT and Operation Impact, schools were selected based on high suspension rates, below average attendance, number of police incidents, and other problematic signs (Drum Major Institute, 2005). Research has found that Impact schools were different from other NYC public schools, in that they were more overcrowded, were far larger than most city high schools, received less funding per student for direct services, had more students over-age for their grade, and served a student body that was disproportionately comprised of poor and Black students (Drum Major Institute, 2005). However, after implementation, Impact schools did not fare much better than prior to program initiation (Brady, Balmer, & Pheniz, 2007). There was a dramatic increase in suspensions and in noncriminal incidents while major crime decreased only slightly. Overall, results indicated that Impact schools may be disproportionately suspending minority youth in the name of school safety but no noticeable safety has resulted. Investments in academic related resources and counseling may be more promising relative to disciplining low level offenders. Regardless, school initiatives have received little attention with respect to their impact on crime rates.

Other Institutions.

In addition to increasing police personnel, the Safe Streets, Safe City initiative also funded community crime prevention programs including conflict resolution projects, and “beacon” schools (Bowling, 1999). The role of policing in the crime decline may have been exaggerated relative to the role of community programs and organizations including sporting leagues, community-initiated neighborhood cleanups, citizen patrols, and “Operation Take Back
Our Community” (Bowling, 1999). Kelling and Corbett (2003) also pointed to the importance of other institutions in crime reduction but do not cite or evaluate specific partnerships or organizations. Empirical evaluation of community partnerships and other institutions is lacking.

Discussion

While a body of literature examining the NYC crime decline for the 1990s exists and data are beginning to emerge regarding the post-2000 crime decline, there are significant methodological limitations that preclude definitive results. For instance, while both Karmen (2000) and Zimring (2007; 2010) discussed the NYC crime decline, their results are mainly descriptive in nature and do not account for simultaneous and competing explanations in a single model. Similarly, Corman and Mocan (2000; 2002; 2005) conducted city wide analyses but lacked adequate comparison groups. Smith and Purtell (2007; 2008) addressed this limitation by using within city comparison of police precincts but do not account for additional covariates. There are a few methodologically sound and empirically rigorous studies that examined changes in crime rates with changes in a host of predictors over time (Cerdá et al., 2009; 2010; Messner et al., 2007; Rosenfeld et al., 2005; 2007). However, further research replicating these results and extending them into the post-2000 era are necessary to examine the continued effects of social and policy relevant factors such as incarceration and order-maintenance policing.

The strongest empirical support for the 1990s crime decline in NYC appears to be related to drug markets. Indeed, the movement of drug markets from open air drug bazaars to more underground, discreet, and individual distribution centers appears to have had a substantial impact on homicide. Further, the transformation in youth culture, particularly away from hard drugs such as crack cocaine, also played a significant role (Curtis, 1998). It is likely that the influence of drug markets may have a smaller impact on crime rates post-2000, given that drug
distribution continues to remain underground and youth culture continues to refrain from using hard drugs.

It is difficult to tease apart the gamut of NYPD strategies to determine which were influential with regard to the crime decline. Rigorous empirical studies have indicated that order-maintenance policing has demonstrated a consistent, albeit modest, reduction in rates of homicide and robbery (Cerdá et al., 2009; 2010; Messner et al., 2007; Rosenfeld et al., 2007). Further, stop and frisk has increased substantially in the past decade but its association with crime rates warrants further empirical investigation. These aggressive policing tactics are not without collateral consequences and may have reached a tipping point where they no longer decrease crime rates, and may even increase crime (Kane, 2006; Meares, 1998). The next step in crime control and prevention might necessitate a more collaborative approach with communities, particularly disadvantaged minority communities.

Empirical studies assessing the impact of incarceration, demography, and gun availability on crime rates have resulted in mixed findings. Generally, results have indicated that these factors did not play a special role in NYC, above and beyond national trends. Alcohol consumption, economic conditions, the housing market, immigration, antiterrorist policing, and education are relatively underexplored and require further investigation. The weakening economy, higher unemployment rates, and an unprecedented number of prisoners returning to communities may very well constitute the necessary ingredients for a reversal in the downward trend and should be closely monitored.

The current review focused on frequently cited mechanisms of the crime drop. However, this narrow focus means that other alternative causes are being ignored (Barker, 2010). For instance, the dissolution and evolution of gangs in NYC have remained relatively unmentioned
in the empirical literature and should be examined. The next generation of research requires a broadening of causal factors that incorporates innovative criminal justice approaches (e.g., drug courts), psychological approaches (e.g., drug treatment), public health and community approaches (e.g., collaborative programs such as the beacon schools), and demographic alterations (e.g., immigration).
References


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