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Editorial—A Summer of Violence

As one who has worked in the field of policing and in the criminal justice system for three and a half decades, I am well aware of the complicated nature of our business. While police agencies continually strive to maintain public order in increasingly complex social environments, and have made great progress in impacting quality service delivery, we are nevertheless humbled by our inability to significantly impact violent crime in our major cities. The deadly triad of gangs, guns, and drugs creates a formidable enemy, and the police and society are on the losing end of the battle.

Of course, one can point to national crime data and make a logical conclusion that the murder rate and other violent crime rates have reduced significantly since the early 1990s. But such data provides little solace to the some 16,000 (annual) murder victims and their families. Today, major cities are proud to announce that their murder rate has reduced by 3% in a given year. But one should not gain comfort in those data. It simply means that instead of 450 murders in the city, there were 435.

If one picks up the newspaper in any of the nation's major cities, on any given morning, there are reports of violent crime, most often perpetuated by gang conflict over territory and drugs and enforced with guns—driveby shootings, gang retaliation, and innocent people caught in the crossfire. And, as the summer heat rises, the inner-cities become shooting galleries. This summer, 13-year-old Robert Freeman of Chicago became a victim. Robert's body lay limp in his mother's arms, riddled with 22 bullets. Robert was an innocent victim whose only mistake was being at the wrong place (riding his bike on the public streets) at the wrong time, and, resultantly, he became a victim of mistaken identity in a gang retaliation hit.

Robert is one example of thousands of innocent kids who live in neighborhoods where violence is a way of life. Robert and similarly situated children had no choice in determining where they live, sequestered in poverty-stricken neighborhoods without the means to escape. So, they seek to survive, with the hope of sometime breaking free, or at least making it to adulthood. Unfortunately, many do not escape. They face the choice of either joining a gang and embracing a life of crime and violence or going it alone. Either way, they lose.

The police struggle to protect kids like Robert, but due to the complex nature of crime, often lose the battle. This professional reality—faced daily by the police—is both frustrating and humbling to even the most veteran of officers who risk their lives to protect others.

Thomas J. Jurkanin, PhD
Senior Editor

Infernal Auditor or Internal Auditor?

Thomas Gee, MPA, MSSBB, Manager, Internal Audit Unit, Kansas City, Missouri, Police Department

Over the last two decades, public managers have had to deal with increasing demands by the public to demonstrate in real terms their effectiveness in meeting citizen expectations. For law enforcement managers, this has meant the development and implementation of organizationwide processes such as COMPSTAT to measure performance. However, as Dr. Bob Behn (2008) of Harvard's Kennedy School of Government points out, "Performance management is more than performance measurement" (p. 1).

This has led to the need to develop strategic goal outcomes based on citizen expectations and to linking agency performance to them. These outcomes often appear in the form of goals for reducing response time to calls for service, improving clearance rates, increasing visibility in neighborhoods, reduction in the crime rate, and fear of crime. However, more recently, managers have come under pressure by government leaders and the public to set budget-related goals and to tie expenditures to the accomplishment of strategic goal outcomes (known as budgeting for outcomes). In addition, there appears to be an increasing expectation to reduce costs and trim the fat, but to also continue to maintain and/or improve the level of service (Krings, Levine, & Wall, 2006, p. 12). These expectations require performance management.

Lawson (2006) supports this notion by stating, "Local governments that go on operating in much the same way as they did in the last quarter of the 20th century—focusing primarily on process and outputs, rather than performance and outcomes—do so at their long term peril" (p. 9).

Those who have been in public administration for many years have often met requests for increased levels of service with corresponding requests for increased resources; however, to put it in Midwestern vernacular, "That dog don't hunt" anymore. This change in public attitude has led to the need for a performance management approach which develops and uses management methods and tools to help conserve and direct/redirect dwindling resources to value-added activities linked to the expected organizational outcomes.

This has been pointed out in a recent article in the ICMA's *The Public Manager*: "In times of shrinking budgets and increasing federal and state deficits, policymakers and practitioners must make efficient use of prevention resources [referring to LE agencies] by opting for programs that have the greatest likelihood of producing positive effects" (Williams-Taylor, 2008, p. 25).

Internal auditing can be useful to the police executive in using performance management to help to get organizational processes under control in terms of economy, efficiency, and effectiveness (the three "E's" of management) and ensuring a reduction in wastage and directing resources to value-added outputs which are linked to strategic outcomes. It has been long said that the bottom line for public agencies is producing services valued by the public. Therefore, the critical measure

of the success of a public manager is directly tied to producing the right or desired service and to do so in an economical, efficient, and effective way. The internal audit function of performance audits can help police managers achieve this and increase their return on the investment of public resources.

Walters (2008) states, “[a] prescription for improved governance includes a strong dose of performance auditing—not the kind of bean counting that has gone on in the past but bold, high-level audits that probe the broader questions of government performance and accountability.”

Jiao (1999) furthers this idea and applies it specifically to policing when he writes,

Because of the large expenditure of police as well as the universality and necessity of police services, the police should be held accountable to the public through their elected representatives and subject to oversight. Police audit provides an important tool for elected representatives—city council, or similar bodies—to fulfill their oversight responsibilities. Police auditing answers the questions raised by the public . . . by assessing how well the police are using the taxpayers’ money and by examining the department’s use and results of its use of the resources made available to it. (p. 5)

In 1981, *The Police Chief* published an article entitled “Internal Auditing as a New Component in Police Management” that was subtitled “How to Manage on Less and Do the Same Job.” In reading that article, it is evident that it is still relevant to police administration today. It seems like back then police administrators were dealing with very similar issues that they are faced with today except the issues now seem to be more urgent and pervasive. We have experienced a tremendous increase in accountability demands but a serious decrease in fiscal resources. However, during the intervening 29 years, there does not appear to have been a significant increase in police department internal audit elements, which conduct performance audits (not staff inspection, which generally deals with compliance only; this is an important distinction); performance audits deal with the three “E”s, and if compliance is included, it is as a side issue.

Generally, many police executives experience the audit function from outside of their organization with audits conducted by city or state auditors. This is not necessarily a “bad thing,” and such audits can be very helpful to getting processes under control. However, an in-house audit shop which reports directly to the Chief or a Deputy Chief has many advantages. For one, it shows that the executive is serious about getting his or her house in order and keeping it that way. It is proactive because problem areas are detected by the organization itself and remediated. It is an ever present partner to be used as the executive sees fit to assist in continual/sustainable improvement. And if the executive is willing (and he or she should be), the internal audits are shared with the public, which shows transparency and increases agency credibility and accountability.

To support the usefulness of this function for police managers, Kansas City, Missouri (KCMO) Police Chief James Corwin recently said, “Internal auditing has been very useful and helps me have a better idea about what really goes on. I don’t know why all police chiefs don’t have internal auditing. A proactive chief wants the internal auditing function to assist him/her in discovering areas needing

improvement. It's not about 'I got you' but about working together for continuous improvement." The KCMO police internal audit unit places its completed audits on the department's public website and alerts the media with a press release as well. This practice has been a clear indication to the public and media that the department is serious about transparency and continuous improvement.

For an internal audit shop to be effective, it must have independence. The auditors should be able to report the facts as they discover them, and they must support their findings and recommendations with verifiable information. This means that executive management needs to support this independence and be willing to hear information that isn't always pleasant. To quote a highly placed official at the KCMO Police Department, "If the baby is ugly, you have to tell me it's ugly." The reader is free to speculate as to the source of the comment. In addition to the Chief being willing to hear bad news, the audit manager must report directly to at least a Deputy Chief who, in turn, reports directly to the Chief. Ideally, the audit function should report directly to the Chief, but given the nature of the modern police chief position, this is often impractical. Such a reporting configuration lessens the number of filtering levels an audit report must pass through, and it keeps the auditors from being supervised by element managers who could be audited (thus adding credibility to the audit process and avoiding conflict of interest issues).

Returning now to an issue which was previously raised—meeting requests for increased levels of service with corresponding requests for increased resources—a new public administration paradigm is put forth which is original to the business sector. This paradigm says that public managers should shift away from meeting increased expectations with requests for increased resources to meeting increased expectations with the same or less resources. In short, it is proposed that stakeholder satisfaction be increased without asking for a single dime in increased resources! Sounds crazy, but this is where the internal audit function comes into play as an agent of performance management through lean.

Lean is a term most often associated with Lean Six Sigma and involves leaning down processes and increasing the three "E"s. Auditors trained in this process incorporate it into their performance audits. Complex organizations are a cluster of inter-related processes which may or may not interact efficiently. Through three decades of public management and studying public administration research, the author has come to believe that organizational "fat" is found in the processes of an agency. By systematically examining processes and leaning them down, the organization will eventually benefit from an accumulation of the effects of trimming which becomes a tipping point and sets the agency on a course of continuous improvement and increased effectiveness. Some have called this *high speed, low drag*. This trimming is not about cutting into the muscle or the bone, which can cripple an organization, but, instead, its purpose is to remove unnecessary fat which either hinders or does not add value to a process nor to the organization.

Krings et al. (2006) make the following statement about lean: "Progressive managers are adopting the lean concept and making significant improvements in government operations by clearly identifying activities that should be eliminated, simplified, or enhanced. This takes courage, commitment, resources, and sound analytical work, but at the end of the day, lean implementation is well worth

the journey” (p. 17). In fact, Lean Six Sigma is being used by the Department of Defense (Kanungo & Hamilton, 2008, p. 53).

Lean is a continual effort since complex organizations are not static but dynamic and must continuously respond and adapt to ever-changing environments. The threat of organizational “fat” accumulation will always be an issue for the police executive. Thus, through this “organizational health maintenance” model, if you will, an organization has a real chance of meeting increased levels of service expectations without requiring increasing levels of resources by redirecting wasted resources from non-value-added activities to mission critical activities—a simple concept but difficult for a police executive to do single-handedly. This improvement effort is similar to turning a battleship, which requires a continuous team effort to overcome the inertia. For organizational managers, the greatest inertia to overcome is cultural in nature. But bending the culture to one of continuous improvement pays off in the long run with notable increases in the three “E”s. The audit shop is part of the team to help bring about positive cultural change by working with and not against department managers as they improve their processes.

In this article, the author suggests to his public management colleagues that a new public administration paradigm exists which demands resource stewardship through performance and lean management and that an internal audit function can greatly assist them in turning their organizational ship onto a leaner course, which could allow them to do more with less or the same.

The author is aware of some police departments in the United States and Canada which currently have internal audit elements: KCMO Police Department, St. Louis Police Department, Los Angeles Police Department, Phoenix Police Department, San Jose Police Department, San Diego County Sheriff, Contra Costa County Sheriff, Mountain View Police Department, Mesa Police Department, and Ottawa Canada Police Service.

Recently, an organization has been established to provide training, certification, and networking to police auditors and/or other professional auditors who are tasked with auditing law enforcement agencies. This organization is the International Law Enforcement Auditors’ Association (ILEAA), and it is based in the Los Angeles Police Department. Its website is www.ileaa.org. ILEAA has recently developed a professional Certified Law Enforcement Auditor (CLEA) program which establishes reliable and consistent training and practice standards for police auditors. The Institute of Internal Auditors provides certification as a Certified Internal Auditor (CIA) and Certified Government Auditing Professional (CGAP), but CLEA certification is geared specifically to the unique task of auditing in a law enforcement environment. With this certification process, ILEAA is fulfilling a critical role for police management.

The author would like to conclude this article with an explanation of the title choice: “Infernal or Internal Auditor?” Auditors are often viewed as infernal troublemakers when, in fact, they can be internal problem solvers and an important component in modern police administration.

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Mr. Gee holds an MPA in Public Management, a BS in Criminal Justice Administration, a certificate in Public Performance Measurement from Rutgers University, and a Master Six Sigma Black Belt from Villanova University. In addition, he is a Certified Law Enforcement Auditor (CLEA) and a member of the International Law Enforcement Auditors Association (ILEAA). He is a part-time lecturer at the University of Missouri-Kansas City in the Criminal Justice Department and is an invitee to the Oxford Roundtable on Criminal Justice Issues in Oxford, UK. He has over 31 years of public administration experience.

Administrative Investigations of Law Enforcement Officers

Joseph Pionke, EdD, Sergeant of Police

As society becomes more complex, the duties and responsibilities placed on police officers have significantly increased. As law enforcement administrators and managers continue to operate under increasingly difficult economic conditions and increased budgetary constraints, police officers are being called upon to do more. As such, the response of police officers to the variety of calls they receive and the services they provide are often judged by others. If someone is not content or happy with the services provided by the officers, the individual may choose to file a complaint with either the law enforcement agency or an independent agency responsible for investigating allegations of misconduct. When this occurs, it is imperative that investigating personnel consider the totality of the event while conducting their investigations. With consideration for the nature of the complaint itself, the specific allegation, the complainant, the policies of the specific agency, and the rights of the accused officers, investigators must follow and adhere to certain guidelines in order to be able to conduct a thorough and impartial investigation resulting in a proper finding.

Obtain as Much Evidence as Possible

Upon receiving a complaint for investigation, it is essential that the investigator attempt to identify and procure as many items of evidentiary value as possible. Items of evidentiary value should be identified, located, and obtained as early as possible in the investigation as identifiable and circumstantial factors to determine if there is any credibility to the allegation against the accused officer. Just as detectives must ensure the immediate location and proper recovery of evidence at a crime scene, investigators who conduct administrative investigations must remain cognizant of the various types of evidence that may be available to them. This collection of evidence is a necessary and required component of conducting a complete, thorough, and impartial investigation in order to prove or disprove the allegation (Aboud, 2005).

In addition to statements provided by involved parties, physical evidence can be used independently to establish a timeline, determine a sequence of events, corroborate other information, and promote a further understanding and explanation of the case under investigation. It is important to note that the inclusion of all available physical evidence is not intended to automatically create guilt or innocence, just as the absence of physical evidence does not automatically create guilt or innocence. All available physical evidence should be included in cooperation with interviews and statements from involved parties as part of a fair and impartial investigation resulting in a proper finding and recommendation (Aboud, 2005).

Physical evidence is becoming increasingly available, especially in electronic form. As law enforcement agencies continue to implement technology in their operations, they have expanded the use of computer applications in their police stations and

police vehicles (McCoy, 2006). Police officers have access to sensitive information; therefore, an officer's record of queries is often retained and can be retrieved within a reasonable amount of time. This electronic form of recordkeeping and document analysis should be readily available from the agency and included in the investigation.

Cellular phones are no longer just for talking; they have the increased capabilities of recording in both audio and video formats. Text messages on cellular phones have become a very popular form of communication. People can send, receive, and share pictures, voice notes, e-mails, and videos. People can also access the World Wide Web, conduct searches on the Internet, and communicate with others through popular websites. Dependent upon the circumstance of each investigation and inclusive of the rights and privacies of involved parties, a majority of these electronic applications has a retention time and may be accessed and submitted for evidentiary value.

The most compelling form of electronic evidence is the actual footage from cameras with recording capabilities (Kinnaird, 2009). Cameras in all forms have become increasingly popular in municipalities. The mayor of Chicago has hinted at having a camera on every corner in the City of Chicago by the year 2016 (Spielman, 2006). After clearance to install more red light cameras, Chicago hopes to increase the number of cameras to 330 by the year 2012. Even smaller municipalities have begun to utilize cameras more frequently. With the increased amount of surveillance cameras, red light cameras, and in-car cameras that municipalities and private organizations utilize, these items of electronic evidentiary value must be identified and information must be requested immediately. While the retention rate of footage may be 60 days for some surveillance equipment, it may be only one day of retention for others. As such, some of the cameras operate 24 hours a day. Therefore, it is imperative that the investigator, upon receiving a complaint for investigation, determines the necessity of obtaining available surveillance footage and request a copy of the event before it is recorded over and lost.

Identify and Interview All Involved Parties

In addition to the recovery and submittal of available evidence as part of an investigation, interviews should be conducted with all involved parties who have been identified or who may be identified as the investigation progresses. These involved parties include victims, complainants, witnesses, independent parties, and accused officers. The interviews exist to elicit further information in an attempt to obtain additional details, clarify particulars, and to prove or disprove allegations (Aboud, 2005).

Consistent with the provisions of collective bargaining agreements and contractual rights, police officers can provide intimate information about the incident under investigation. Independent parties who may have witnessed the event can also provide additional information that was previously unknown to the investigator. Hence, these types of interviews can be utilized to obtain additional information, corroborate the statements of others, corroborate other items of evidentiary value, and to gain a more comprehensive understanding of the events that transpired as cause for a complaint to be initiated (Aboud, 2005).

Consistent with the identification of any additional involved parties is the timeliness of the interviews. There are many reasons why involved parties must be interviewed as soon as possible after the event. First, an investigator should immediately get each person's version of the story so the parties do not forget details of the incident. Second, the investigator should obtain a version of events that has not become distorted over a period of time. Third, an investigator should interview the involved party before others have an influence on his or her account of what transpired. With the recovery of all available evidence and the interviews of all involved parties in a timely manner, the investigator has established a documented effort to conduct a fair, impartial, and thorough investigation.

Remain Impartial Throughout the Investigation

Regardless of the size of the law enforcement agency, it is imperative that the investigator remain impartial throughout the entire investigation. Although it is rare for an investigator to personally know the accused officer in a large municipality, the same cannot be said for a smaller municipality. Quite often in smaller law enforcement agencies, the investigator has some type of working relationship with the officer under investigation. Regardless of the relationship, or lack thereof, the investigator must not have any preconceived ideas about the case or any opinions about the involved parties that may impact the investigation (Kelly, 2003).

At an appropriate point in the investigation, the investigator should review the complimentary and disciplinary histories of the accused officer (Kinnaird, 2009). The complimentary and disciplinary histories of the accused officer should not be considered in making a determination of innocence or guilt, but should be considered in helping to determine an appropriate penalty recommendation without bias or partiality if necessary. Remaining neutral from the date the complaint is received for investigation until the date that the case is closed identifies an effort and attempt to remove any bias, prejudice, and personal impact on the investigation and the subsequent outcome (Aboud, 2005).

Utilize All Available Resources

As part of a thorough and proper investigation, an investigator should identify and utilize all available resources in order to obtain as much information as possible. Depending on the investigation, the need to identify and solicit individuals within, and/or outside, the unit or department may be necessary. Cooperation on the part of these individuals is vital to a timely, accurate, and thorough investigation. Regardless of the type of information requested, investigators should elicit the help of others in order to proceed with the investigation with as much information as possible. This includes documentation and evidence inclusive of reports, memos, inventoried items, photos, information contained in personnel files, and electronic devices. The investigator should identify the person, department, or agency that may assist in procuring the specified items, contact them for assistance and cooperation, and document any correspondence.

Unique and Flexible Investigations

There is a saying in law enforcement that no call for assignment or traffic stop should ever be considered routine. Under the same premise, investigators should treat each and every case they receive as independent and unique. As similar as one case may appear to another, the subtle and distinct differences of each case must be considered in conducting an independent investigation. No two cases are ever exactly the same; therefore, it is difficult to establish policy and procedure for the investigation of complaints in the same manner every time (Kelly, 2003). Guidelines may be utilized to positively influence a proper and impartial investigation, but a strict and standard policy that does not allow for details to emerge throughout the investigation should not be promoted.

Just as every case should be treated as unique, the investigator must remain flexible throughout the investigation so that she or he is acutely aware of the unique subtleties that will impact the investigation. As details emerge while the investigation progresses, the investigator must include and consider their importance. This is imperative while conducting statements and asking questions with the involved parties. The investigator may choose to prepare questions prior to an interview, but she or he must be able to not only allow the involved parties to provide their responses in detail, but also to proceed in any direction and change the follow-up questions accordingly in response to provided statements (Wright & Alison, 2005). If the investigator only asks questions that were prepared in advance, he or she may unintentionally have a negative impact on the investigation, including failure to clarify ambiguous responses, failure to ask follow-up questions, and failure to consider the importance of details offered during the interview. Interviews are important components of an investigation and must be conducted in such a manner as to elicit information and allow for the emergence of details.

For this reason, interviews, statements, and formal question-and-answer sessions with involved parties remain an integral part of the investigatory process. When questioning an involved party, the investigator must be open-minded and prepared to proceed wherever the answers may lead. As such, investigators should avoid asking compound questions so as to narrow the focus of the response and to avoid confusion. Investigators should ask questions that require a detailed response rather than asking questions that elicit a simple “yes” or “no” answer. The answer to a question should not be contained within the question, and investigators should strive to format all questions in an objective and unbiased manner to elicit truthful and accurate responses (Wright & Alison, 2005).

Correct the Behavior, Not the Person

The purpose of an administrative investigation should not be to immediately punish an officer who is accused of misconduct, but, rather, to conduct a thorough and timely investigation by collecting and analyzing evidence, examining all pertinent documents, and conducting statements with all involved parties to determine if the allegation against the accused officer has been proven or disproven. Based on the allegation and subsequent finding, the investigator’s recommendation should not be intended to distribute punishment, but, rather, to establish a recommendation that attempts to correct and modify a behavior that is proven to be inconsistent

with the established rules, directives, or policies of each respective department (Kelly, 2003). An investigation that results in a sustained finding should conclude with the type of recommendation that serves as notice to the accused officer that the exhibited behavior is undesirable, unacceptable, and must be modified to conform to department policy. The recommendation of a penalty based solely on punishing the accused officer does nothing to improve performance, motivation, or morale and should not be utilized. Therefore, it is imperative that the investigator understands that his or her investigation does not just affect an officer's disciplinary record, but, more importantly, the officer's career.

Follow Procedure

Miranda vs. Arizona (1966) is a U.S. Supreme Court case that established that suspects must be given their criminal rights prior to being questioned and interrogated. And just as suspects in criminal cases have constitutional rights, law enforcement officers under investigation have administrative rights. Police officers are aware of the importance of reading suspects their *Miranda* rights prior to interrogation; as such, officers and investigators should be equally knowledgeable about their *Garrity* rights.

Garrity vs. New Jersey (1967) is a U.S. Supreme Court case that established the rights of law enforcement officers under investigation by their respective departments. The Supreme Court decided that it was unconstitutional for officers to be compelled to answer questions as a condition of employment that may result in discipline or termination. The *Garrity* case also provided that law enforcement officers who invoke their rights against self-incrimination cannot have their statements that were provided during an administrative investigation used against them in a criminal investigation. Yet, as a condition of employment, law enforcement officers may be ordered to answer questions administratively. The invocation of *Garrity* rights protects them from having the statements used against them criminally (Schofield, 1998).

If an officer refuses a direct order to answer questions administratively, she or he may be disciplined for disobeying a direct order, insubordination, or any other similarly established policy by their respective department. In addition to the unique policies of individual departments is the potential impact of union memberships and collective bargaining agreements. Unions and collective bargaining agreements may exist for members of various ranks in law enforcement agencies. The investigator should be knowledgeable about the collective bargaining agreements and the rights afforded to officers under the agreements. Notification to the accused officer, time to procure legal representation, grievance procedures, and other options must be continually considered throughout the investigation.

Conclusion

Each and every complaint received by law enforcement agencies must be taken seriously and investigated as to the validity of the complaint and if any further action is warranted and justified. Regardless of the complaint, investigators must continually be aware of changes in department policies, rules, and regulations in balancing the allegations and the response of officers under investigation. By conducting fair, impartial, and thorough investigations, investigators are

able to make a determination as to the complaint's validity. If the allegations are unsubstantiated, the investigator may terminate the investigation. If the allegations have merit, the investigator can impose a proper penalty while respecting the rights of the officers and correcting a behavior that is not consistent with department guidelines. This process is important in following department guidelines, laws, and collective bargaining agreements in conducting proper administrative investigations.

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Changes and Challenges to Proposals for Regionalization of Police Services in Rural Communities: The Forty-Year Experience in a New England State*

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Introduction

The need for some form of police coordination was first mentioned in 1967 in the President's Crime Commission on Law Enforcement and the Administration of Justice's *Task Force Report: The Police*, which stated that "a fundamental problem confronting law enforcement today is that of fragmented crime repression efforts resulting from the large number of uncoordinated local governments and law enforcement agencies" (p. 68). The commission felt that the lack of cooperation and coordination contributed to (1) a failure to address the cross-jurisdictional nature of crime, (2) the possibility of crime displacement, (3) the costly and inefficient duplication of services, and (4) a lack of uniform standards in law enforcement. In 1973, the National Advisory Commission on Criminal Justice Standards and Goals recommended the consolidation of all agencies with ten or fewer sworn officers (pp. 73-76). Besides resolving the aforementioned problems, it was believed that consolidation would lead to upgrading police services at a reduced cost. In the late 1960s and early 1970s, arguments for improved police services, greater cost efficiency, and reduced duplication neutralized arguments for local autonomy and control, and some jurisdictions consolidated their police services. Despite national commissions' support for consolidation, an alternative remedy for fragmentation, as Walker and Katz (2002, p. 75) and Peak (1993, p. 55) have noted, is contracting, through which either small agencies contract with larger ones for specific services or small communities, both incorporated and unincorporated, contract with another agency, usually a sheriff's department, for all police services. Peak (1993) notes that such contracts benefit both governmental entities, saving the small communities the full spectrum of policing expenditures and allowing the sheriff's department to share personnel and equipment costs (p. 55).

Until the mid-1970s, there was a consensus among police experts that there were serious problems with fragmentation and duplication of police services and that consolidation was the major remedy. Then, Ostrom, Parks, and Whitaker (1976) undertook the first systematic research on the issue, *The Police Services Study*, which is now a landmark study on the topic. After examining 1,827 law enforcement agencies in 80 medium-sized metropolitan areas, they concluded that informal interagency assistance is common and strict duplication of services is almost nonexistent in the

production of direct police services. As a consequence of informal arrangements involving coordination, sharing, or alternating responsibility, they found no areas were left completely unpatrolled or were patrolled simultaneously by two or more agencies, and auxiliary services were provided by larger departments to smaller departments. Most significantly, the study, as well as other studies (Weisheit, Falcone, & Wells, 1996, p. 77), concluded that small police departments were not necessarily less efficient than larger departments as they put a higher percentage of officers on the street, performing direct police services.

Also, more recently, Lithopoulos and Rigakos (2005) state in their study that evidence suggests that small- and medium-sized police services are more successful in dealing with crime and operational costs than much larger regional services. They assert that “as far as the claim that regional policing is the trend of the future, there has been little empirical evaluation of the underlying assumptions on which it is based. Studies that have been conducted to date are methodologically limited. Furthermore, many reports were produced after regionalization was a *fait accompli* and there was a tendency to rationalize rather than provide empirical evidence on the benefits of regionalization” (pp. 349-350). According to Peak (1993), even with their advantages, consolidation and contracting have not become popular nationally, probably because of public concerns over losing direct control of their police officers (p. 57). Moreover, Walker and Katz (2002) point out that “the emphasis on decentralized policing under community policing suggests that small local law enforcement agencies might be preferable to large consolidated agencies” (p. 75).

Although it would appear that the debate regarding consolidation and regionalization has been pretty much moribund in the United States since the publication of *The Police Services Study* (Ostrom et al., 1976) and the rise of the community policing movement, the issue of regionalization has continued to be a recurring theme over the past 40 years in numerous commission reports, studies, and conferences on evaluating police services in Vermont. One reason, as indicated in a 1974 report by the Governor’s Commission on the Administration of Justice, *Delivery of Police Services in Vermont*, is that “few studies have dealt with the unique policing needs of rural areas.¹ . . . The standards and goals of the National Advisory Commission on Criminal Justice do not apply to rural, sparsely settled areas, or to communities as small as most Vermont towns” (p. 2).

Since the early 1970s, many top police officials in Vermont have felt that there was a lack of any systematic approach to law enforcement in the state. The 1974 Governor’s Commission report criticized policing in Vermont as “not a system,” but, instead, “an accumulation of two centuries of state and local enactments” (pp. 23, 25). Participants at the 1990 Grafton Conference on *Public Safety: Adapting to Changing Times* stated that “public safety services in Vermont have grown pretty much ‘like Topsy,’ with little concern for the organization, priorities, efficiency, cost-effectiveness, or possible duplication of services to citizens and taxpayers” (p. 6). Even though they felt cooperation had improved, they went on to state that “there remain many ‘turf’ problems, duplication of functions, overlapping jurisdictions, confusion in communication, and shortcomings in central information gathering and use” (p. 6). And in 2007, Gauthier in his study of police services in rural communities, also concluded that “the growth and arrangement of different law enforcement agencies in this state did not follow any sort of organized plan, resulting in duplication of resources in some instances and disparate levels of services in others” (p. 55).

Distinguishing Regionalization from Other Concepts

Regionalization is not merely a form of cooperation. As noted in the 1969 International Association of Chiefs of Police's (IACP) *A Survey of Police Services in Chittenden County, Vermont*, "although the individual departments agree that they receive excellent cooperation from adjoining departments, there are no mutual aid pacts or any other contractual agreements to provide assistance, except in the area of communications" (p. 34).² As the Washington County Sheriff noted when being interviewed about a Barre Town consolidation with Barre City, current forms of cooperation were only "incident" specific. This mainly pertains to when one department needs help, the other provides backup as the former Police Chief of Barre City remarked. The sharing of services is always sharing on a case. When more formal types of cooperation have occurred, they have been the alternative to the creation of a regional police—that is, contracts with the Vermont State Police (VSP) or a sheriff's department for patrols.

While the 1974 Governor's Commission report said that "amalgamation [can be] used interchangeably with 'consolidation,' and refers to the joining together of two or more governmental units for the provision of one of more services" (p. vi), regionalization only sometimes can be used interchangeably. Another term has been *unification*. At the Grafton Conference (1990), participants did not always make distinctions between "'regionalization' and 'unification,'" but seemed to imply that a Plan A would restructure local police departments into regional authorities, coordinated by a central statewide council" (p. 5). Later "discussion of Plan A gave rise to the idea of establishing regional police forces along county lines" (p. 5). Besides mergers, there can be the consolidation of certain support and auxiliary services (Governor's Commission, 1974, p. 36). Sometimes consolidation of these services, particularly records and communications, is referred to as centralization (IACP, 1969, pp. 35, 74). Regionalization can be used to describe this type of consolidation or centralization when two or more existing police forces within a contiguous area are combining these types of services. The 1969 IACP study of regionalization of policing in Chittenden County, Vermont, described the type of services that could be consolidated (or centralized) as recruitment and selection, training, planning, records management, communications, and administration (pp. 37-39, 73-75).

Although some departments in contiguous towns have entered into discussions or agreements to merge or share certain services, this is only one type of situation in which regionalization occurs. Regionalization also occurs when a totally new entity is created for which there have been no municipal police departments but, rather, coverage by the VSP or contracted coverage by either the VSP or a sheriff's department (or possibly another municipal department). So, it can involve the creation of a new entity rather than a merger or coordination between two or more existing entities. The two bases for regionalization have important implications. First of all, when regionalization involves creating a new department without a merger or coordination of existing departments, the reason is never to reduce costs. Instead, it is often prompted by an attempt to shift costs from the VSP to communities currently receiving VSP coverage. The VSP is either providing coverage to unincorporated areas not otherwise covered by other agencies, delivers services to towns that are incorporated but not under contract, or expends more resources to towns under contract with them in which the contract does not sufficiently cover the services.

Contracts have either been seen by some as a logical step toward regionalization and by others as a form of regionalization. On the one hand, the Public Safety Strategies Group (PSSG) in their 2009 study of law enforcement services in Vermont sees contracting as a step toward regionalization (p. 39). On the other hand, the current president of the Vermont Sheriff's Association actually refers to contracting as "regionalization through contracting" (Gauthier, 2007, p. 53). Some have referred to the policing arrangement between the towns of Hardwick and Greensboro that occurred over 25 years ago as a consolidation or regionalization of police in the towns (p. 53). In fact, the Greensboro website refers to it as the Hardwick-Greensboro Police Department. However, Greensboro actually has a contract with the Hardwick Police Department for 24/7 services, which it usually renews on an annual basis, although recently it signed a two-year agreement for these services. There is no establishment of a new regionalized police entity—one that operates as a single agency—but instead a contract, which during any period can be dissolved.

Alternatives for Improving Coverage and Services

In order to improve coverage and services in rural areas and small towns,³ especially those without their own municipal police departments, a number of alternatives have been proposed. These alternatives were proffered beginning with the 1974 study, when the Vermont Governor's Commission on the Administration of Justice first began to recommend eliminating the State Police Outpost Program. The outpost program was an important exception to the mainly supportive role of the VSP (p. 44). Outpost troopers were deployed in rural areas to carry out the statutory mandate to "promote the detection and prevention of crime generally" (p. 45). In 1974, there were 33 outposts with a total of 38 troopers; five had two men, and in several instances, outposts worked together in terms of shared coverage. In single man outposts, the troopers functioned semi-autonomously, although they had the back-up resources provided by the troops and subtroops (p. 86). In 1974, 38 outpost troopers were assigned to cover 119 towns. The State Police Outpost Program served 14% of the state's population, which was not in some way served by other police services, while 2% of the population was served simultaneously by both outposts and local police services. The outpost trooper functioned as a one-man department in geographical areas larger than any served by one-man local departments, but he or she did not provide 24-hour coverage (p. 94). Already in 1974, the Governor's Commission suggested that the "38 officers assigned to the outposts would be more effectively utilized if reintegrated into the regular operations of the Department of Public Safety" (p. 46). It was felt that "the outpost system incurs the problems of scale of operations and ineffective dispersal of effort addressed in relation to small local police departments" (p. 46). Again, in the 1977 State Police Study by Governor Salmon's Task Force for the Management Study of the Department of Public Safety, it was recommended that the outpost system be abolished by July 1, 1983 (p. 3).⁴ However, as will be discussed later, the problem with maintaining the outpost system seemed to be mostly one of cost to the VSP. In fact, a recommendation, I-60, was proposed in the 1977 State Police Study, which considered it a viable option for towns or groups of towns to purchase services of a resident trooper who would remain under the jurisdiction of the VSP (with no local control over the trooper) (p. 5). The major difference between the outpost program and the resident trooper program is that towns would now have to pay for the trooper.

In 2005, the Vermont League of Cities and Towns (VLCT) published the pamphlet *Policing Options for Local Governments*. In that pamphlet, largely written by Richard Gauthier, Chief of the Bennington Police Department and Chair of the Law Enforcement Advisory Board (LEAB) of the Vermont Department of Public Safety, five options were identified for increasing law enforcement presence in their jurisdictions⁵: (1) overtime policing contracts with agencies such as the VSP or the county sheriff's department, (2) municipal constables, (3) special investigative units, (4) entering into an intermunicipal police services agreement with another municipality, and (5) establishment of a municipal department. Contracts generally provide for enhanced coverage to address particular concerns residents may have, such as increased traffic enforcement or extra coverage dedicated specifically to their communities (p. 2). The authority of constables is granted by the state, is limited, varies by municipality, can be augmented by the municipality, and does not require training (pp. 2-3).⁶ Special police officers serve at the direction of the legislative body of the municipality, and their authority is limited to the specific community (p. 3). Agreements to provide intermunicipal police services (similar to school districts) allow towns to have their departments pull resources or allow them to create an agency with one or more towns (p. 4). Significantly, "the governing bodies of any interested municipalities may, without voter approval, enter into written agreements describing the scope of services, the duties and responsibilities of each participant, and the governing authority for the law enforcement officers" (p. 4). Finally, a Select Board or town manager, if there is a town manager form of government, has state authority to establish a police department and appoint police officers and the chief of police (p. 5).

Recommendations for Regionalization

Notwithstanding these different alternative police delivery systems, every study from the 1969 IACP police services report of Chittenden County departments to the 2009 Public Safety Strategies Group (PSSG) law enforcement services study of the State of Vermont has recommended the establishment of regionalized police. Most of the studies have recommended implementing regionalization by developing intermunicipal agreements and establishing special district boards similar to current school districts (Gauthier, 2007, pp. 8, 36; Governor's Commission, 1974, p. 127; Grafton Conference, 1990, p. 19; IACP, 1969, p. 42; The Mercer Group, 2009, pp. T154, T156; Public Safety Strategies Group [PSSG], 2009, p. 32).⁷

The 1969 IACP study of Chittenden County recommended a new countywide regional police instead of consolidation under the Sheriff's Department, even though the Sheriff's Department had full jurisdiction in law enforcement matters (p. 9).⁸

The 1974 Governor's Commission study reiterated the need for regional police forces:

[O]nly one proposal, a two tier system of police services, emerged which met the criteria necessary for Vermont's unique needs. This concept calls for the division of the state into districts wherein regional police forces would operate. The State Police would provide supplemental specialized support services. . . . The daily policing, focusing on the patrol function, would be provided by regional police forces small enough to remain personalized and responsive to the particular needs of the municipalities they serve, yet large enough to provide continuous, 24-hour coverage with adequate manpower to permit. (p. 120)

In the Report of the Nineteenth Grafton Conference in 1990, the 24 individuals considered to be stakeholders in public safety in Vermont from law, law enforcement, prosecution, the judiciary, corrections, the legislature, private business, and the media attending the meeting recommended Plan C, which combined the best aspects of Plans A and B. Plan C stipulated that municipal and sheriffs' departments could be combined into regional departments operating under the authority of a school union-type of governance. However, participation in this unification would be voluntary for both the agencies and communities. Those who opted to participate would be eligible for assistance both monetarily and technically by the new Agency of Public Safety (pp. 17-19).

Gauthier (2007) also found that regionalization was viewed by law enforcement and community leaders as the best option for improvements in coverage and services (p. 44). He states that "studies dating back to 1974 have looked at this issue and regionalization has been the favored method of providing the highest level of police coverage and services. But no action has been taken to implement the findings of any of these studies" (pp. 54-55). He found that "the results of the survey of community leaders in [his] paper were consistent with those obtained by the Rural Law Enforcement Services Study (RLESS) . . . done almost seven years earlier with members of the same group (not necessarily the same respondents)" (p. 55). He also noted "of equal interest is the indication that members of the law enforcement community held the same opinion as community leaders, though to a lesser degree, and also held the same opinion that regionalization would best serve to improve the status quo" (p. 55).

In their 2009 study, the PSSG recommended that "the municipalities without an organized police department need to consolidate resources with neighboring communities for needed policing services (p. 20).⁹ They recognized that their "report provides recommendations similar to previous studies" (p. 9), although they argued that their report also includes data analysis and best practices research that can provide a framework for implementing change" (p. 9).¹⁰ Those at the June 4, 2009, meeting of the Law Enforcement Advisory Board (LEAB) in the state noted that results were the same since the topic was studied in 1974; they also noted that the LEAB had thrown its weight behind regionalization before.

From the 1969 IACP study that recommended the merger of Chittenden County departments into one regional department to the recent 2009 PSSG study, which recommended regional departments for communities without police departments, there has been no establishment of regional police departments. Most recently, there has been inaction on a feasibility study for some type of collaboration in 2007-2008 between Barre Town and Barre City, although currently there is serious discussion of consolidation proposed in 2009 by the cities of Castleton, New Haven, and Poultney.¹¹ There is also currently an effort in Chittenden County for police departments to share services. So far, only the state, and not any towns without police departments, has initiated proposals for a regional police. It would appear that it is very unlikely that communities without police departments will attempt to establish regional police agencies.

Almost all of the studies that have been done on police services in Vermont that have recommended a regionalized police *vis-à-vis* other alternatives as the best solution to police fragmentation, duplication, inadequate services, and increasing costs have been undertaken by management consulting firms and not academics

or public servants¹² for either the Governor or the state legislature.¹³ The classical model of police regionalization, as extrapolated from the 1969 IACP study of regionalization of police services in Chittenden County, Vermont, was directed toward improving the efficiency of delivering police services by merging small departments and can be characterized as including eight features: (1) it viewed regionalization as involving the merger of existing small departments that are less efficient than larger ones because of problems of scale; (2) it treated regionalization as cost reduction, and thus an incentive or advantage for regionalizing police; (3) it viewed inadequate coverage and services as the major motivation for regionalization and promised improved specialized services provided by the regionalized force besides improved coverage through generalized patrol; (4) it defined the inequality in policing in small towns and rural areas in terms of uniform measures of response times, police coverage as a ratio of officers to population,¹⁴ and common services for all jurisdictions, which were seen as best addressed through regionalization; (5) it promoted centralized versus decentralized control and treated local political control or autonomy as an obstacle to regionalization rather than an asset; (6) it excluded sheriffs' departments from any countywide regionalization plan even though they perform a law enforcement role; (7) it conceived of police functions primarily as law enforcement rather than as order maintenance, service, and quality-of-life issues; and (8) community residents were not carefully surveyed and provided little to no input in determining the best approach to delivering police services.

This model has evolved in Vermont since 1974, as commission reports and other studies and proceedings have recommended that regionalization be directed toward improving the rationalization, systematization, and planning of policing services within the state, which has meant defining complementary functions and jurisdictions for different levels and types of agencies in the state. This has led to some changes in the features of the original model of regionalization: (1) there has been a de-emphasis on the merger of existing small departments, a lack of criticism of the inefficiency of small departments, and a refocus on the establishment of totally new regionalized forces where there were no previous departments; (2) there has been recognition that there would be a cost increase for communities establishing a regional police; (3) there has been more attention on improving coverage through generalized patrol by a new regionalized force while entrusting specialized and support services to the VSP; (4) there has been a de-emphasis on centralized control and the inclusion of recommended mechanisms, such as representative district boards, to incorporate some degree of local control; and (5) inequality is now viewed in terms of disproportionate service provided by the VSP to certain rural communities that is subsidized by taxpayers statewide. However, the newer version of the regionalization model still assumes inadequacy of police coverage and services to these rural areas by using uniform measures instead of a needs assessment; conceives of police functions as primarily law enforcement; lacks sensitivity to input from community residents in determining the best approach to delivering police services; and excludes the sheriff's department from any countywide regionalization plan, even though recognizing that it plays a law enforcement role. The alternative model, contracting, has been initiated at the town level, has viewed police functions more broadly, and has focused on addressing the policing needs of communities (including different types of patrols) through customized service.

Preference for Contracts

Gauthier (2007) found in his survey that “though contracting was not the preferred option, it still scored highly enough to indicate that many law enforcement officers and community leaders see it as a viable option; some respondents suggested that regionalization through contracting would be a way of blending the two options” (p. 55). Towns and villages certainly seemed to have done so. Whether or not it is a remedy to fragmentation, towns and villages without police departments¹⁵ have opted to contract with either the VSP; sheriffs’ departments; or in one case, Greensboro, with another municipal department (Hardwick)¹⁶ to obtain police coverage and services instead of developing regionalized police departments. For example, in 1995, when the Town of Northfield, Vermont, established a Police Task Force Committee to consider alternative provisions for policing in Northfield, seven of the eight alternatives included at least some partial type of contracting (p. 23): (1) contract with another municipality for police coverage, (2) contract with the VSP for coverage, (3) contract with the Washington County Sheriff’s Office, (4) retain Northfield Police during the day and contract with another municipality for police coverage at night, (5) retain Northfield Police during the day and contract with VSP at night, (6) retain Northfield Police during the day and contract with the Washington County Sheriff’s Office for police coverage at night, (7) contract with a private security firm for police coverage, and (8) share the chief of police with the Town of Berlin.

According to the 1974 Governor’s Commission study, a contractual agreement involves a governmental unit which lacks police services entering into a contract with another unit, with the latter providing police services for the former, for a given fee (p. vii). Arrangements of this type in Vermont are generally between one or more towns and a sheriff’s department versus intermunicipal contracts. Not only are contracts customized to their clients’ preferences, but, as indicated in the VLCT (2005) brochure, *Policing Options for Local Governments*, in no way should these diminish the coverage a community would ordinarily receive from another law enforcement agency, most typically the VSP. They are not only agreements for a certain level of coverage, but they generally provide for enhanced coverage and certain services to address particular concerns residents may have such as increased traffic enforcement or extra coverage dedicated specifically to their communities. These contracts have not been a matter of a formal collaboration between two agencies, nor even agreements between two political jurisdictions (except in the case of Hardwick and Greensboro); instead, they are agreements between municipalities and police agencies. Communities apparently have preferred to contract rather than develop a regional police department because it is much cheaper to do so and meets their individual policing needs.

The current president of the Vermont Sheriff’s Association sees contracting as the most cost effective way for communities without their own police to increase coverage and services (Gauthier, 2007, p. 53). Gauthier states that “interviews clarified what respondents had in mind when they specified regionalization as the best option: one respondent believed that regionalization through contracting with sheriffs’ departments would work best, while another believed that inter-municipal police agreements would be most desirable. Another respondent believed that circumstances would dictate how best to regionalize—for example, contiguous communities at points where county lines merged might find inter-municipal police agreements more effective than contracting through a county-based agency” (p. 3).

According to the VSP Support Services Division Commander, who is in charge of contracting for the VSP, the VSP currently has 23 contracts with towns and villages, besides contracts for special events and certain types of enforcement throughout the state. These contracts are primarily for speed enforcement patrol, but in certain circumstances, one town has requested more comprehensive law enforcement to respond to specific incidents such as burglaries that are occurring in a concentrated area. All contracts are on an overtime basis, so the trooper receives overtime for the work.¹⁷ They vary from less than five hours per month to over 240 (with one case at 374.3 hours). The hours vary for each community each month and include carryover hours from the previous month. This is a consequence of certain functions (e.g., additional dedicated patrols) they perform for different communities, which is stipulated in the contracts. Even though the VSP is charged with coverage without the contracts, these towns want to ensure coverage beyond what the VSP would provide without a contract. Because of the demands made on the VSP and the fact that these contracts are also not a major source of their funding, it has been open to transferring its coverage and service to a regional police department or even a sheriff's department. The Support Services Division Commander said that the VSP has discouraged contracts with them because they drain VSP resources and has even suggested these towns contract with the sheriffs' departments. In fact, the PSSG (2009) recommended phasing out VSP contract services (p. 20). However, many towns prefer the VSP contract. In fact, PSSG's community survey (notwithstanding its poor response rate) found that the VSP is still seen by the public as superior, and communities still prefer contracts with them.

According to Gauthier (2007), "the VSP and municipal police departments are able to contract services," but they "don't do so to the extent sheriffs' departments do; neither agency can easily hire individuals specifically for contracted patrols, and using existing officers will either cause shift shortages or the contracting jurisdictions will have to pay a higher per-hour cost because the officer will be working at an overtime rate" (p. 32). Already in 1974, the Governor's Commission study quoted the then President of the Vermont Sheriff's Association that "it would appear that in lieu of any regional police forces that the sheriff could and I might add should be able to furnish law enforcement to small communities either collectively or singularly." He went on to say that "I personally feel that contracts with various towns with assistance from either county, state, or federal revenue is not only practical but [an] economical method of dealing with our state law enforcement needs" (p. 41). On the other hand, he felt that "the forming of a regional force as a separate entity would complicate and further make more animosity between a fourth organization" (p. 41).

The sheriffs have increased their contracts with towns and villages from 14 noted in the 1974 Governor's Commission study to 99 at the current time for the 12 of 14 sheriffs' departments that do contracting and that responded to an inquiry about their contracts. The jurisdiction specifies what it is seeking for law enforcement coverage, and a contract is drafted specifying services and payment (Gauthier, 2007, p. 33). Such contracts cover from two hours per week all the way to 160 hours per week. Some villages and towns together or two towns together share a contract for a certain number of hours per week. Some of the contracts are full-service contracts, whereas others are mainly traffic enforcement patrols. The sheriffs' departments also have contracts with malls, schools, apartment complexes, development agencies, hospitals, and private companies in addition to jail operations, special events, and alarm call outs. Many of the contracts include special conditions: some of the contracts are for only so many months per year, some have different summer

and winter hours, some include day patrols only when school is in session, some include call out service for the towns when the VSP or constable are not around, and some are so many hours per year when requested. At least one sheriff's department does criminal investigations at the request of the Town Manager or Select Board.

Despite the fact that the PSSG acknowledged in its 2009 study that current contracts are providing needed policing services in some areas of the state, according to them, a review of contracts shows municipalities would obtain greater coverage and enhanced services through the development of a regional approach (p. 19). As previously mentioned, however, the authors of the PSSG study never broached the question of whether those municipalities needed or wanted greater coverage and enhanced services. They go on to argue that the problems of contracting are that they do not provide adequate local control and that agencies contracting do not have a long-term obligation to citizens of a particular town (p. 19). Presumably, the lack of a long-term obligation in the case of the sheriffs' departments is that the arrangements are dependent on personnel in positions resulting from the election process rather than the appointment process (p. 19). Even though in their survey they found that 85% of the 89 respondents from sheriffs' departments believe that they have the training and experience to handle all policing issues and that 88% believed that their agency was not performing a law enforcement function or activity that should be performed by another agency (p. 55), they attempted to use other survey results to argue against the viability of contracting with the sheriffs' departments. They noted that sheriffs responding to the survey do not believe that contracting for limited policing services only (such as traffic enforcement) was in the best interests of policing in Vermont, with 37% agreed and 62% disagreed with this practice. They also noted that of the 87 respondents, 37 (43%) stated that they fully handled an incident themselves that happened during a shift; however, while they were working a specialized assignment, 25 (29%) placed a call with a different agency and remained on the scene until someone arrived. They then concluded that while some municipalities contract with both the VSP and sheriffs' departments, a better option is to pool resources and establish a full-time police department to appropriately address community issues and provide a local control mechanism for police services (p. 84). However, since so many Vermont communities are now doing contracting and hardly any have created regional police departments (despite being recommended in almost every previous study), there are some possibly unwarranted assumptions made in the study. These questionable assumptions include (1) that these communities have such a great concern about local control, (2) that the cost of pooling resources would not be much greater than what they are currently paying in the contracts, (3) that they need or want greater services than they are currently contracting for, and (4) that there are pressing community issues which are currently not being addressed.

Gauthier (2007) found through the survey in his study that

contracting for services, at 22.7 percent, was ranked second among community respondents and third among law enforcement respondents at 19.1 percent. Law enforcement saw the biggest advantage of contracting to be the ability of a community to tailor law enforcement coverage and services to its needs. The second and third ranked reason, with a statistically insignificant difference between them, was that costs could be anticipated and contained, and communities didn't have to worry about hiring, equipping, and training officers. The primary disadvantage, in the opinion of the law enforcement

respondents, was that the officers ultimately answer to the contracting agency, not the community. The other disadvantages noted were that the contracting agency may pull its officers at any time, and/or unilaterally decide to terminate the arrangement. Like law enforcement respondents, community respondents saw the ability to tailor coverage and services to be the biggest advantage. Ease of implementation and cost control were cited as the second and third ranked advantages. Lack of control over placement of officers was cited as the primary disadvantage. Lack of control over the skill levels of the officers assigned to their communities was the second ranked disadvantage. (pp. 47-48)

Motivations for the Creation of Regionalized Police

Inadequacy and Inequality of Police Coverage and Services in Rural Areas

The 1974 Governor's Commission study stated that the small local departments, the sheriffs, and the outposts all represent limited service in terms of coverage (p. 93). The study cites a police services survey that found there were significant increases in traffic congestion, petty larceny, and burglaries occurring in rural towns and villages where there was an increase in second homes and recreation but where local law enforcement services were absent. Touche Ross & Co., who did the 1977 study of the VSP, pointed out several factors that indicated that delivery of rural police services was going to continue to be Vermont's most pressing police services requirement (Governor Salmon's Task Force for the Management Study of the Department of Public Safety, 1977). The Rural Law Enforcement Committee (RLEC) (2000) study done in 1999 concluded that there was "no crisis in rural law enforcement services in Vermont" (p. 12), but coverage and response times were still unsatisfactory to residents of rural communities. When asked about the most significant problems with existing law enforcement services in their communities, 55% of the municipal officials saw the lack of 24-hour coverage as a "serious problem," while 56% of them viewed lengthy response times as a serious problem as well (p. 4). The RLEC also conducted a statewide poll of community residents regarding satisfaction with law enforcement services and what they may see as significant problems, if any, with the levels of service in their communities. The community members did not share the municipal officials' opinions concerning the level of seriousness of such problems as lack of 24-hour coverage and lengthy response times, though 46% of the poll respondents thought 24-hour coverage was "pressing" and, "when asked to consider various solutions to service-related problems, 24-hour police coverage was the solution" (p. 11). Again, in 2003, the Law Enforcement Working Group (LEWG) reported that "some communities are concerned they are receiving fewer law enforcement services than they would like (pp. 2-3). In his paper on providing law enforcement in rural areas, Gauthier (2007) found that "the results of the surveys [he conducted] indicated that a majority of law enforcement officers and community leaders believed that the current level of coverage and services was unsatisfactory and that regionalization would be the best way to improve them" (p. 42). The 2009 Public Safety Strategies Group (PSSG) study also noted that the lack of 24-hour per day police coverage in all state areas is a concern to some individuals as is the increased demand on police services (p. 1). In the current Castleton, New Haven, and Poultney initiative to consolidate policing, cost is less of an issue than the desire of the jurisdictions to extend coverage to a 24/7 basis and to better address perceived increases in drug and other problems.¹⁸

However, the 2009 PSSG report found that certain recent claims, such as increased crime in the areas where regionalized police have been recommended, have not been found to be empirically validated. Despite inferences about dramatic shifts in crime, the study found that crime trends have remained stable; and despite interpretations by Vermont law enforcement officers, the number of incidents responded to by the VSP did not decrease significantly, nor did incidents responded to by municipal police increase significantly from 2004 to 2008 (p. 9).

Many times, inadequate service has focused on response times to calls for service to different types of incidents. In 2003, the LEWG reported that concerns for fewer law enforcement services “relate to long response times for complaints of less serious crimes and quality-of-life issues” (pp. 2-3). Whether or not slower response times had critical consequences or not, the Colonel of the VSP did comment that lengthy response times comprised the majority of complaints to the VSP (Gauthier, 2007, p. 21). However, Gauthier, in his interview with the then VSP Colonel, quoted him as stating that “there are just some things we [VSP] can’t do well” (p. 19). He referred to response times as fast as those of municipal agencies, as well as quality-of-life offenses and services that are not necessarily law enforcement-oriented.

However, as the 1974 Governor’s Commission study recognized, “there are no accepted methods of determining value of police services received except possibly by expert testimony” (p. 115). Most of the studies that have described failure to provide adequate police services to these areas really have not defined what has been meant by police services. Usually these studies have meant law enforcement rather than order maintenance or some other type of police service.

Despite what Ostrom et al. (1976) found regarding no area not being patrolled, arguments for regionalization have been made to redress the imbalance in patrol in areas which were receiving unequal police services. One conclusion drawn in the 1974 Governor’s Commission study was that there was inequitable, as well as inefficient, distribution of law enforcement in the state. In fact, the objective of the study was the development of funding guidelines for effective and equitable delivery of police services to the people of Vermont. In his paper, Gauthier (2007) states that “rural communities in Vermont receive lower levels of police coverage and services compared to their larger counterparts, and this has been a concern for a long time” (p. 54).

Before talking about the inequality of services in certain rural areas *vis-à-vis* more populated areas, it is necessary to determine whether there is a differential need for coverage and services between these areas and other areas in the state. The issue of inequitable coverage and services seems to be based on assumptions that there should be some form of uniform coverage per square mile rather than examining through a needs assessment whether there are differential needs for police coverage in different areas.¹⁹ The former Chief of Barre City, for instance, when interviewed about the consolidation of the Barre Town and Barre City Police Departments, said that Barre Town has less need for police services than Barre City. The equality issue is different for merger and collaboration of existing agencies than for those communities that have not previously had agencies. While in all cases the question remains about the proportionality of the contribution from each community, in the case with no existing agencies, there is probably less of a question about fair coverage, particularly in terms of what it previously was.

The Cost Issue and the Reinterpretation of the Inequality Issue

Cost savings and effectiveness (Fairweather, 1978; Krimmel, 1997; IACP, 2003; PSSG, 2009, p. 39)²⁰ have been the commonly mentioned incentives²¹ for recommending the development of a regional police. This appears to have been true in the case of the Barre Town and Barre City consolidation proposal. It was initiated by one Select Board member from Barre Town, who was motivated mainly by the skyrocketing budgets for these services (especially “outrageous” medical costs of personnel and union demands), besides an interest in acquiring better service. Cost savings was also a major motivation for the 2009 PSSG study. At the very outset, the study noted that the “State is at a crossroads; increasing demands on law enforcement and the inability to increase policing budgets²² forces the State to choose between either keeping pace with the demands of, or not providing policing services that citizens are accustomed to receiving” (p. 1). More explicitly, it indicated the need to “do more with less” (pp. 2, 10).²³

However, for communities without existing police departments, instead of being seen as reducing costs,²⁴ regionalization to these communities is pretty much a cost increase issue.²⁵ Gauthier (2007) states that the consensus regarding regionalization as a solution to the problems of coverage and services in rural Vermont “was tempered with the observation that regionalization is also the most expensive to implement, [as well as] most complicated to govern” (p. 55). Although the LEWG (2003) reported that “some communities are concerned they are receiving fewer law enforcement services than they would like, they also recognized that “roughly 100 towns believe the need for local law enforcement services does not warrant the additional expense and rely solely on the basic level of service the county sheriff and state police provide” (pp. 2-3). Whether these communities are already contracting or whether they are receiving noncontracted (free) services from the VSP, Gauthier (2007) found in the survey he did in his study that “strong majorities of all law enforcement respondents believed that the cost of providing increased law enforcement coverage (81.1 percent) and services (87.4 percent) would be the biggest obstacles to improvement. Community respondents were consistent with law enforcement respondents, with 70.2 percent believing the cost of providing more coverage and 80.4 percent believing the cost of providing more services would prove to be the biggest obstacle” (pp. 44, 46). In fact, at the June 4, 2009, meeting of the Law Enforcement Advisory Board (LEAB), the Sheriff of Washington County asked where the money is to do regionalization. The same question was raised at the June 24, 2009, LEAB meeting about seed money for regionalization, and it was reiterated that “municipalities are resistant to pay for law enforcement services they are not now paying for.” So, cost considerations may become an incentive to contract instead of develop a regional police.

From the perspective of the VSP, the argument for recommending the development of a regional police has also been a consequence of the drain on VSP resources in continuing to provide generalized police coverage to small towns and rural areas (Gauthier, 2007). The 1974 Governor’s Commission study cited a cost of \$18,000 for an outpost trooper compared to an annual cost of \$10,000 for a local police officer, and a total cost of \$684,000 to keep 38 outpost troopers. It went on to state that “the outpost may actually be considered a one-man regional police force. Although the outpost officer is supported by the state police troop or sub-troop, this form of support could just as well be supplied to any one-man local department. The 38 outpost officers are assigned to cover 119 towns, a system representing a greater

dilution of manpower than any encountered in the previous discussion of small local police departments” (p. 45). The assignment of outposts seems to have retarded the development of local police departments. In fact, the 1977 State Police Study recommended that the (general) police service to rural areas the VSP provided could instead be provided by a properly trained sheriff’s department, the formation of a regional department, or contracted services of qualified personnel for which the contracting communities must pay (p. 3). The more recent recommendation of a resident trooper differs in that the communities would have to pay for the trooper.

In reality, the inequality issue can be redefined. Rural areas are actually getting more state police coverage and paying less than other areas with their own police departments. In fact, regionalization is actually an attempt to get them to pay for services for which they have not paid.²⁶ There have been calls for rectifying the unequal police coverage for rural areas when others pay for it. The creation of regionalized police then is not a cost savings but a cost shift from state to local governments. This larger inequality question is what has prompted the proposal for regional police agencies. It would appear that the state and VSP are encouraging regionalization because they are providing disproportionate service to certain towns when they are being subsidized by taxpayers statewide who do not receive that level of service.

The elimination of the outpost system can be considered a response to the inequality issue wherein certain communities were receiving disproportionate VSP coverage *vis-à-vis* most communities, as well as an issue of utilizing the troopers for what was considered more suitable duties. The 1974 Governor’s Commission study, in fact, states that “the towns benefiting from the outposts do not contribute proportionately to their cost, in effect shifting a large part of their local police burden to taxpayers statewide, many of whom also support their own police through local revenue funds” (p. 45). The report goes on to say that outposts have not been assigned according to the ability of towns to support their own police operations and that the \$640,000 annual cost of the outposts is, in effect, a subsidy to certain towns from the funds of the Department of Public Safety (p. 46). Furthermore, the report contends that towns within an outpost’s “area of influence” receive a greater value of VSP services than those towns which do not have an outpost. Those towns which provide their own police services (local police departments) received fewer services from the VSP than do towns which have not established local police departments, in spite of the fact that the towns and cities which financially support local police departments also pay for VSP services (pp. 54-55). This same theme is reiterated later in the 1974 report wherein the authors reaffirm that

there is inefficient and inequitable distribution of law enforcement in Vermont at present time. There are some areas where overlap of police services occurs. Other areas receive but a minimum of such services. Some towns pay greater amounts of money for their police services than others. The amount of money expended is correlated with neither the ability to pay nor with the value of police services received. No municipality should pay more than others for receipt of minimum police services, taking into account all municipalities’ relative wealth and consequent ability to pay for police service. (p. 119)

Finally, the authors recommend “equalizing formulas be developed for the distribution of state monies to those local units of government which provide police services as recommended in this report, recognizing the relative wealth of municipal governments and their relative abilities to pay” (p. 128). Likewise, one

of the reasons the 1977 State Police Study recommended phasing out the outpost system was not only because it did not encourage local participation or control of law enforcement, but, moreover, because it was not cost equitable to towns that have organized their own police departments (pp. 5-6).

Redefining and Readjusting the System of Policing in the State: Specifying Jurisdiction and Roles for Agencies at Different Levels of Law Enforcement

Notwithstanding the proposal in the IACP's 1969 study to establish a regional police in Chittenden County that would consolidate existing small town police departments, the proposals to develop regional police departments have in large part revolved around the issue of systematizing law enforcement in the state, and, even more specifically, determining the appropriate role of the VSP. This has meant that the issue of the development of a regional police department was much less an issue of local autonomy or the need to provide better coverage and service to certain towns and rural areas and much more part of a solution to police jurisdictional (functional as well as geographic) issues—to resolve how levels of law enforcement in the state will be articulated. Thus, recommendations for regional police have been much more a consequence of a concern about the relationship between agencies defined in terms of their complementary jurisdictions and functions than cooperation among agencies at the operational level (except for back-up).

As noted in the 1974 Governor's Commission study, "the General Assembly recognized new law enforcement needs in 1947 but left unclear the division of labor among the new state police, the sheriffs, and local police."²⁷ The municipal police understood their own jurisdiction, but the role of the sheriff *vis-à-vis* the state police was ambiguous. Both were charged with the same general responsibilities" (p. 27). At that time, "by failure to fund or otherwise substantially support the . . . sheriff or deputy, the General Assembly [had] effectively diminished the power of these enforcement personnel" (p. 27).²⁸ Since then, the sheriffs' departments have expanded their law enforcement function by acquiring funding through establishing contracts with towns that have not had their own police departments. Again, in 2009, the issue was still not resolved. The PSSG (2009) stated that "an outcome of the Study was to define future roles, interactions, and responsibilities for all disparate law enforcement agencies, thereby determining the most effective and efficient methodology to improve the level of services offered to Vermont citizens" (p. 1).²⁹

Insofar as the use of contracted services by sheriffs does not diminish the coverage these communities ordinarily receive from the VSP (VLCT, 2005, p. 2), it could be assumed that contracting, versus regionalization, requires greater cooperation between sheriffs' departments and the VSP. However, where there has been sheriffs' involvement in policing some of these communities when the VSP has had jurisdiction, the policing was not as seamless as Ostrom et al. (1976) would lead us to believe. As indicated in the 2009 PSSG study, there still are functional jurisdictional and cooperation problems. A number of troopers stated that serving court orders that are not served by sheriffs' departments are a significant drain on their on- and off-duty time (p. 81). Jurisdictional disputes have occurred between deputies on contracted duty and VSP troopers with responsibility of answering calls in the same community (Gauthier, 2007, pp. 28-29). Part of this is because deputies are generally working a specific detail such as traffic enforcement and are

not paid to answer calls for service, and part is because there is the likelihood that the agency tasked with primary enforcement duties—in this case the VSP—may have a dim view of what they consider encroachment on their territory.

According to the 2009 PSSG study, at the present time, VSP has primary enforcement responsibilities for approximately 50% of the state's population. Troopers patrol rural areas, state highways, and towns that do not provide their own law enforcement coverage or those operating on a part-time basis (p. 58).³⁰

The thrust regarding the evolution of the role of the VSP has been toward moving the VSP toward engaging in less generalized policing and focusing on more specialized and support services. As previously noted, in the early 1980s, the VSP redeployed 38 officers in 33 outposts in certain rural areas while at the same time calling for a regionalized police system. Today, the VSP would like to reduce their contracts with certain towns and be less responsible for the rural areas they are mandated to cover by having regionalized police assume some of their responsibilities. According to the 1974 Governor's Commission study, the "General Assembly saw the state police as the coordinator across town and county boundaries, and as the supplier of auxiliary and support services to the existing localized police structure" (p. 43). However, in 1974, there was still an issue of determining the proper role for the VSP. The 1974 study assigned police activities into four broad categories: (1) traffic related, (2) law enforcement related, (3) administrative, and (4) other activities (p. 96). They then examined these categories of activities in terms of (1) percentage of time spent on each activity, (2) how often each task is performed (frequency), (3) time taken each time for the task performed (time per job), and (4) the significance of the activity in the officer's subjective opinion. They found that there was almost exact similarity in the percent of time spent on each set of activities by both the local and the state police, and no significant difference in terms of what they do (p. 97). In the 1977 State Police Study, the proper role of the state police was still being debated. The authors of the report stated that "the proper role of the State Police became perhaps [the] major source of disagreement between task force members" (p. 4). In the report of the Grafton Conference (1990), it was recommended that "the State Police would cover those municipalities that chose not to join the regional forces or whose departments did not meet the new standards" (p. 19). In 2003, the LEWG stated that "such an approach [cooperation through intermunicipal agreements to form a regional police or multi-town sheriffs' contracts] will enable the state police to continue to concentrate on major crime, drug interdiction, and interstate highway safety, while providing backup as needed to local and regional officers for emergencies and criminal offenses" (p. 7). And again in 2009, the PSSG noted that "the mission of the 2009 study included the review of the roles and responsibilities of various State-funded law enforcement agencies and their impact on local and county law enforcement" (p. 1).

Almost all the studies since the 1974 Governor's Commission report have recommended that the VSP relinquish as much of its general policing functions as it could and instead provide specialized and auxiliary services. In fact, the 1974 Governor's Commission study recommended a two-tiered system in which "the state police would provide only those services for which specialized training and skills would be necessary [and in which] the daily policing, focusing on the patrol function, would be provided by regional police forces" (p. 120). They suggested changing the role of the VSP to that of investigative specialists; support services, such as a crime lab; and traffic operations on the interstate (Gauthier, 2007, p. 6). In fact, the creation

of a regionalized police was described in the 1974 Governor's Commission study as allowing for the VSP to specialize, stating that "the role of the state police will continue to shift toward specialized and support services as statewide network of regional police forces is developed" (p. 125). This specialized role was reiterated in the 1977 State Police Study. The committee doing the study recommended that the "long term role of the state police should be: 1) to investigate matters concerning serious criminal activity; 2) maintain a crime information center; 3) more effective highway patrols; and 4) to provide supportive services to other law enforcement agencies" (p. 3). They did realize that "it would be necessary for the State Police to continue to provide general police service to certain rural areas until other qualified law enforcement personnel can provide this service" (p. 3). The VSP did begin to implement this movement toward specialized and supportive services when they eliminated their outpost system.

Commission reports and other studies and proceedings have consistently marginalized sheriffs' departments, despite the fact that sheriffs' departments have been even more proactive than the VSP in defining themselves. None of the studies recommended that the sheriffs assume law enforcement responsibility in rural areas not covered by their own municipal police or that have been patrolled by the VSP, even though there has been recommendations to regionalize policing of these areas on a countywide basis. The opposition to sheriffs assuming this law enforcement responsibility has centered on four issues: (1) whether sheriffs should have a law enforcement function; (2) whether these offices are appropriately funded to assume these responsibilities; (3) whether there would be the necessary political accountability, except directly to the public, over time since sheriffs are elected and can change; and (4) whether sheriffs' deputies, positions which are predominantly part-time, have the requisite qualifications to assume full law enforcement responsibilities.

Even though the authors of the 1969 IACP study of police services in Chittenden County recognized that the sheriff's department in the county had full jurisdiction in law enforcement matters (p. 9), they nevertheless recommended the formation of a new regional police department (p. 33) with its own special police district encompassing the whole of Chittenden County (p. 57). The 1974 Governor's Commission study marginalized sheriffs' departments even further, noting that "sheriffs' responsibilities were reduced with the creation of the Vermont State Police" (p. 36),³¹ that "the office was in the process of historic change, [and] the county has further declined in importance as law enforcement activities of the sheriff were replaced by municipal and state police" (p. 26). The report did go on to state that "if the sheriff is to continue to assume an active enforcement role, he must be permanently funded by the state, the county, or through stable contractual arrangements with towns." The study noted that "several sheriffs stated in the survey that they are not interested in, nor do they intend to perform law enforcement duties, [while] several others have developed a well organized structure and have considered law enforcement their main responsibility" (p. 80). Despite what appeared to be equivocation regarding the sheriff's role, the study clearly came out in its recommendation to eliminate the law enforcement functions of sheriffs. The report stated that "it is suggested that legislation be enacted which would clearly define the role of the sheriff as court officer, transporter of prisoners and mental patients, and server of process [and] further suggested that such legislation remove law enforcement powers excepting as necessary for custody and transportation of prisoners" (p. 128). However, recommendation I-30 in the 1977 State Police Study

contradicted that 1974 Governor's Commission recommendation. Instead, it stated that "the sheriffs should be encouraged to continue to improve their operations to enable them to continue to provide law enforcement services" (p. 4), noting the increasing law enforcement role of sheriffs' departments.

As almost all sheriffs' departments have assumed law enforcement responsibilities since the early 1980s, this is no longer an issue. As they have improved their financial base through contracting, the issue of funding has also diminished as an argument. The other two issues continue to be expressed, with the lack of qualifications argument being voiced more frequently and cogently.

In fact, one major reason for creating a regional police system rather than expanding the sheriffs' departments' jurisdictions is that sheriffs' departments have not been seen as very professional because most sheriffs' deputies in the state are part-time and have not received the perceived requisite training.³² Throughout the Grafton Conference (1990) report, allusions were made to the lower quality of personnel in sheriffs' departments. For instance, it stated that "sheriffs would be retained on a countywide basis, and would 'plug in' as they could, *if their personnel met certain standards* [my italics]" (p. 16). Also, the report stated that "sheriffs' departments that decided against unification would be subject to the same new performance standards applicable to local, regional and state police. It was suggested that their levels of certification would dictate the amount and nature of the services they could contract with local towns" (p. 19). This issue of basing the nature of police efforts solely upon their certification and qualifications was not resolved. In 2007, Gauthier identified that the "disadvantage [of contracting with a sheriff's department] is that the jurisdiction has no control over the quality and certification of the deputy assigned to them—there is no one set of policies or standards that apply to all sheriffs' departments" (p. 33). Gauthier, quoting the 2003 LEWG report, notes that the lack of qualifications of sheriffs' deputies has even led to jurisdictional conflicts between contracting sheriffs' departments and the VSP, noting "there may be a distinct difference in experience and training levels between deputies whose primary duty is providing contracted traffic enforcement to rural communities and troopers who are tasked with responding to wherever they are called to answer a wide variety of complaints" (p. 29).

Before the findings in the Ostrom et al. (1976) study, and certainly before the era of community policing, the early studies in Vermont seemed as interested in eliminating small departments as they were in creating regional departments. The 1969 IACP study of Chittenden County claimed that small departments were not self-sufficient and indicated what was needed to be self-sufficient (p. 34). Moreover, the study stated that most small jurisdictions are financially unable to provide comprehensive police services. As a result, maintaining a multiplicity of small police agencies in a small geographical region results in inefficient duplication and, consequently, inadequate police service (p. 33). It also argued that small departments at that time provided no retirement benefits and no false arrest and other liability insurance and was limited in providing in-service training opportunities (p. 32). The 1974 Governor's Commission study also argued against the viability of small departments (p. 32ff). The report stated that "if Vermont's strong home rule tradition were to be followed to its logical conclusion, the state would continue to proliferate small police departments, conceivably reaching 150 or more separate local agencies at some future time" (p. 120), which the authors felt would be the least efficient. It contended that although a few towns

had appropriated adequate funds to provide good salaries and equipment, small departments, however well-managed or equipped, cannot overcome inherent problems of scale (p. 33). Likewise, Recommendation I-10 of the 1977 State Police Study stated "do not encourage development of very small departments to fulfill increasing need for rural police services" (p. 4). Despite what Ostrom et al. (1976) found, the 1977 State Police Study contended that small departments are not an effective method of delivering police service; they carried excess administration and clerical overhead and could not supply 24/7 coverage.

While the early studies, particularly the 1969 IACP study and the 1974 Governor's Commission study, were opposed to small departments because they were viewed as inefficient and incapable of providing necessary services, later studies in Vermont, as well as nationally (Weisheit et al., 1996, p. 77), took a different position. Since the later studies seem to be more concerned with reducing the VSP's general policing of rural areas not covered by other departments, there seems to be less of an interest about regionalizing existing small departments and more of an interest in getting small towns without departments to assume more financial responsibility for police services. The development of a regionalized police for these small towns has been seen as the best way to get them to pay more for their police services.

According to Lithopoulos and Rigakos (2005), the other arguments in favor of regionalization, such as the need for specialized services, also appear to be problematic. They contend that one reason why larger police services may be less effective or efficient is that the percentage of officers assigned to patrol decreases as police service size increases. Larger police services are more likely to assign personnel to other specialized services such as criminal investigation, traffic control, juvenile services, administration, training, detention, communications, and crime labs. Other studies, and, indeed, provincial practice in Canada, indicate that small police services are able to obtain specialized services from larger provincial or adjacent police services as required. The earliest study in Vermont in 1969 by the IACP saw regionalization as an opportunity to develop greater specialization, which was not emphasized in later commission reports.³³ When two agencies have proposed a merger, one of the agencies already is providing certain services, usually investigation, which would bring those services to the other agency. This has been argued as one of the enticements for merger. With the merger, the increased resources might lead the merged department to expand this particular extant area of specialization. In the case in which there are no existing departments, it is assumed that the new department will provide generalized services and the VSP will provide the specialized and support services. The 1974 Governor's Commission study emphasized the importance of patrol in a regional police force but noted that investigation (particularly juvenile) would also be conducted by regional forces, while other specialized and supportive services would be provided by the VSP (p. 124). It is stated in the report of the Grafton Conference (1990) that under Plan B, "municipal police would be the general practitioners and the State Police would be the specialists" (p. 16).³⁴ The 2009 PSSG study reinforced previous recommendations about specialization, stating that "municipal agencies can maximize on their efforts by relying on the state police for the specialized services and focus training dollars on the most prevalent types of crime" (p. 54).

Local Control and Community Policing

In one of the very few articles on the relationship between consolidation and community policing, Ernst (1994) did not see the two concepts as incompatible. According to him, the degree to which consolidation will have the least negative impact on community policing is determined by what to consolidate and how best to implement consolidation in a community policing context. He goes on to state that whether consolidation is compatible with community policing depends on preplanning and services chosen for consolidation. He suggests that records, dispatch, evidence processing and storage, and investigations can be accomplished without adversely impacting community policing. In Vermont, many of these services are provided by the VSP and would continue to be for newly regionalized forces.

Lithopoulos and Rigakos (2005) also note that there is nothing inherently contradictory about community-based policing and the increased use of regional police services. They point out that “at the same time the new Ottawa-Carleton Regional Police service was being created, it was adopting a new service delivery model within a strong community-policing framework.” However, they believe that “the mechanics of police regionalization seem to undermine this community-based principle insofar as the community-policing movement ostensibly entails decentralization on two levels: within police organizations and between the various levels of policing” (p. 349). They go on to say that “if the amalgamation and the concomitant regionalization and centralization of policing services is such a good idea and not a threat to community proactivity and control, then why do newly regionalized police services such as Ottawa-Carleton feel it is necessary to immediately decentralize by adopting the community-policing service model?” (p. 349). In Vermont, the 1969 IACP study saw regionalization as eliminating the diffusion of authority (p. 39), which at the time, they considered a positive development, but which today contradicts movement toward decentralization, an integral principle of community policing.

Local Control

As Ernst (1994) has noted, community input as well as adequate consideration of financial issues are essential to effective police consolidation. Likewise, the PSSG (2009) indicated reasons why opponents believe regionalization as a form of consolidation would negatively impact local law enforcement (p. 33). Many of these reasons would seem to suggest that consolidation contradicts some of the fundamental tenets of community policing. Among the reasons for opposition are that it leads to a loss of citizen contact; a loss of community independence and local control; and a loss of local, non-law enforcement services, such as issuing permits and licenses—activities very much part of an officer’s job.

A managerial model of policing emphasizes costs and efficiencies, whereas a community policing model emphasizes local control and focuses on quality-of-life issues. The 1969 IACP study expressed antagonism toward local control. According to the authors of this study, “citizens and their elected representatives must decide which is more important—retention of political influence in the form of absolute control over a police agency or the increased crime fighting capabilities generated by a regional police agency. They must decide whether they prefer to retain the traditional forms of policing or adopt modern police concepts” (p. 69).

Concern for local autonomy and control has been a commonly mentioned obstacle to consolidation and regionalization of policing³⁵ (Aydin & Kavgaci, 1996; Murphy, 1991; PSSG, 2009, p. 33).³⁶ However, regionalizing has taken on different dimensions in Vermont. First of all, while local control may be an obstacle for communities that already have their own departments, such as in the recommended consolidation of the Barre Town and Barre City Police Departments (The Mercer Group, 2009, p. 108), it certainly has not been for those who do not have their own departments. Some Select Board members are concerned about maintaining control over their police when they have an existing department and not relinquishing it to a special district commission, even though there would be community representation on that board. In a discussion with the Sheriff of Washington County, who was previously in the Barre City Police Department, about the consolidation of Barre Town and Barre City Police Departments, he said that a “true merger would tend to be opposed because of concerns for local control.” At the Grafton Conference (1990), “proponents said that there should be ways to consolidate, streamline and specialize without losing community identity” (p. 15). One of the guiding principles of the PSSG’s (2009) recommendation to develop a regionalized police was to develop local control of policing services. However, according to Gauthier (2007), both law enforcement respondents and community respondents in his survey felt the primary disadvantage of regionalization was that it required local communities to give up autonomy and control, besides being the most complex option to implement (p. 46). Gauthier went on to say that “among the options presented here, this one [regionalization] removes local control almost entirely, if ‘local control’ is defined as having complete discretion on how the agency functions in a given single community” (p. 56). At the June 4, 2009, LEAB meeting, the Director of the Vermont Police Academy noted “how many people said [it was] time for it to happen as long as we maintain our identity.”

While regionalization may not be incompatible with local control as much as many have assumed, local control is less an obstacle in contracting than in developing regional police departments. Instead of two or more towns competing for appropriate representation in controlling the regional police force, contracts, according to the VSP Support Services Division Commander, can be seen as incorporating local control insofar as the towns determine the special conditions of the contract.

Closeness to the Community

The 1969 IACP study indicated a realization that it would be controversial to create a regional police that would no longer police in patrolling areas with which they were familiar nor interact with citizens as they had before, but at the same time indicated insouciance toward doing so. They stated that “as police operations grow, the once-familiar aspects of police work become increasingly removed from the day-to-day observation of citizens” (p. 69). They go on to state that the local police “will no longer be the ultimate authority on police matters in their town jurisdiction; individuals accustomed to working within confines of a specific jurisdiction may be required to patrol in any area throughout the region” (p. 79), eschewing the permanent assignments associated with community policing. Elsewhere, the study notes that the “most controversial aspects of the consolidation or coordination of law enforcement activities lie in the area of field services, since they are characterized by direct contact with the people” (pp. 40, 77), and thus suggested phasing in regionalization, noting that uniformed patrol was the last part of consolidation (pp. 78-79).

However, later studies were more sensitive toward police responding to local needs. The 1974 Governor's Commission report stated that "the daily policing, focusing on the patrol function, would be provided by regional police forces small enough to remain personalized and responsive to the particular needs of the municipalities they serve, yet large enough to provide continuous, 24 hour coverage with adequate manpower to permit" (p. 121). Likewise, the 1977 State Police Study said that a regional police would not only be a cost-effective alternative, but would "be close to the community being served[, have] better ability to respond quickly to calls and would have opportunity to interface with local citizens on a more personalized basis" (p. 4).

According to those at the Grafton Conference (1990) community members want to see a cop on the beat and seem willing to pay the cost, while "proponents [of consolidation] said that there should be ways to consolidate, streamline and specialize without losing community identity. . . . [F]ew participants favored a single unified police force, mostly on the grounds that Vermont is very community-oriented, communities want to retain their identities and police need to know their own jurisdictions" (pp. 11, 15). In fact, in one of the proposals, Plan A, some participants believed that citizen involvement would be generated through regional policy-setting boards (p. 15). Gauthier (2007), who strongly supports regionalized police, believes that such a force can be closer to the community than when police are merely contracted. He realizes that the "officer who is part of community may have more 'tools' available to him/her than [an] officer who only goes to the community in response to calls. These primary relationships lend themselves more readily to informal social control measures than formal institutionalized legal action" (p. 30).

Police Functions and Dealing with Quality-of-Life Issues

Police problems and trends must be considered from a broad perspective. Most people when thinking of police problems and trends think first about crime and about increases in crime. For instance, the 1969 IACP study begins with a discussion of the crime problem in Chittenden County (p. 11) as if that is all police do. The problem of crime is certainly a primary concern of police and is dealt with through their law enforcement role. However, it is not the only problem the police encounter in their work. Police are also called upon *inter alia* to maintain social order and keep the peace in a community (such as resolving altercations and grievances between neighbors), to attend to safety hazards, to enforce traffic and motor vehicle laws and regulations, and to be the first responders in emergencies. In fact, the very nature of community policing involves reorienting police work on various community problems that might give rise to crime. Therefore, a simple recitation of crime statistics is not sufficient in discussing police problems. Police problems are also determined by community perceptions. Even some minor forms of criminal activity may not be defined as problematic by a community. Again, community policing is intended to deal with community perceptions and fears as well as with the so-called reality of crime. Even though many police surveyed by the PSSG (2009) identified most of what they do as law enforcement, they also revealed that the top three specific calls they receive were for minor thefts, minor traffic crashes, and disorderly conduct, which accounted for 27% of the total (p. 54). However, the PSSG recommended that constables rather than a regionalized police be used to respond to minor quality-of-life issues in smaller municipalities. The survey part of the study found that constables were willing to perform additional policing functions, such as dealing with minor offenses and quality-of-life issues, if it were required of them (p. 54).

Despite the fact that the top three specific calls selected by survey participants from municipal departments were minor thefts, minor traffic crashes, and disorderly persons, the 2009 PSSG study had little or nothing to say about the effects of regionalization on community policing. In fact, officers surveyed in certain jurisdictions apparently did not clearly distinguish between direct law enforcement services from ancillary duties. The study reported that Orleans County had the largest percentage of respondents (72%) estimating that at least 75% of their time is spent on direct law enforcement; in Bennington and Orange Counties, 66% of respondents said they spent 75% of time on direct law enforcement services; in Washington County, 29% said they spent less than one-quarter of their time on law enforcement, followed by Chittenden and Windsor Counties (22 and 19%, respectively) (p. 80).

Conclusion

Before answering the question of what has changed regarding both regionalization of police in particular and law enforcement in Vermont in general since the early studies in 1969, 1974, and 1977, it is appropriate to note what has not changed. Despite persistent calls for the creation of regional police departments, there has yet to be a single establishment of a regionalized police. Although there have been recent studies and discussions regarding the consolidation of the Barre Town and Barre City Police Departments and the establishment of a consolidated police department in Castleton, Fair Haven, and Poultney, the prospects for a consolidation of the former are not favorable, and there is continued discussion regarding the latter. In each of the aforementioned cases, at least there was one, if not two, of the towns that had an existing police department. There have been absolutely no efforts made to create a regional police department exclusively by towns that do not have existing police departments. That would clearly indicate that despite even the recent 2009 Public Safety Strategies Group (PSSG) study that continues to recommend regional police departments, there does not appear to be any significant movement toward regionalized policing on the horizon.

There have been changes since the reports in 1969, 1974, and 1977. First of all, the Vermont State Police did eliminate its outpost system in order to deploy troopers used in the 33 outposts to other duties. This move has left a vacuum that was filled by the second and most important development, the tremendous increase in towns contracting with both sheriffs' departments and the VSP. Currently, the VSP has 23 contracts with towns, and the sheriffs' departments have 99. In 1974, when the VSP still had their outpost system, they had no contracts, and the sheriffs' departments had only 14 contracts.

Proposals over the years for developing a regional police system have meant much less about inadequate service provisions of small departments and threat of merger to autonomy at the local level and much more about cost inequities and the systemization and articulation of jurisdiction and generalized and specialized police roles at different levels of law enforcement within the state. A major thrust toward the development of regional police is not the inequitable coverage and quality of service received by unincorporated rural areas and towns without their own police, but the inequitable coverage they are receiving by the VSP, given their tax contributions to the state. In other words, the recommendation to develop a regional police system is for these communities to take fiscal responsibility for their own policing needs, which they view as an increased cost they are unwilling

to incur. Thus, they have opted instead for contracting, which provides customized services for their perceived policing needs.

At the level of the VSP, there has been no change in the call for the VSP to focus on specialized and support services, in addition to the highway patrol, and to decrease their generalized police functions. The 2009 PSSG study called for four other state-level specialized law enforcement agencies to consolidate with the VSP while continuing to call for a regional police system, which would assume some of the generalized police functions the VSP continue to perform. At the level of the sheriffs' departments, studies no longer are calling for them to eliminate their law enforcement functions and concentrate on their civil and criminal transport services, even though there has not been much support for them expanding their contracts to these towns and certainly little to no support for them to form a regionalized police. At the municipal level, there has been more of an emphasis on towns without police departments creating regional departments that would perform a few specialized functions rather than on the consolidation of existing departments and elimination of small departments. However, very little attention continues to be placed on the role of the police regarding quality-of-life issues other than a recommendation to have constables deal with these issues.

Endnotes

- ¹ According to Murphy (1991), non-urban policing in Canada (except in Ontario and Quebec), which is in a process of modernization and regionalization, will eventually develop into a provincially based system and force the Royal Canadian Mounted Police (RCMP) to become exclusively a federal police force. Among the consequences are a diminishing of municipal authority and influence, a contraction of federal power, an expansion of provincial power, a gain in power for police chiefs, and a loss of power for local municipalities. Kuhn and Criminal Justice International (n.d.) felt that the need for regionalization is especially evident in police agencies serving small towns, cities, and villages.
- ² Phillips (1999) stated that the multijurisdictional task force is a true interagency effort rather than the assignment of a police function to one principal agency as found with consolidation. He calls the latter *cooperation*, whereas he refers to the former as a form of *coordination* (pp. 3-4).
- ³ See table on page 93 of the 1974 Governor's Commission report on police coverage by different departments by percent of state population.
- ⁴ All page numbers cited from this 1977 State Police Study are from Section II of the report. Touche Ross & Co., who did the study, were opposed to not expanding the outpost system and phasing it out. They wanted to expand outposts from 33 to 46 (which they say would reduce administrative costs) and felt that the outpost system was the most viable alternative for the delivery of the required rural police services in Vermont.
- ⁵ In his capstone paper for his Master of Justice Administration at Norwich University, Gauthier (2007) said there were "currently three existing options for increasing police services and one potential future option: regionalization, contracting, using a constable, and the resident trooper program" (p. 37).
- ⁶ For a discussion of the powers and roles of constables in Vermont, see page 16 of the 1974 Governor's Commission report. Although constables have been untrained and uncertified, they will be required in the future to attend the Vermont Police Academy (Gauthier, 2007, p. 34).
- ⁷ At the Grafton Conference (1990), Cornelius Hogan warned that "the plan for reorganizing police would create yet another series of districts: regional police districts. The totality of

all these disparate districts, with no common rationale or standards for boundary lines or participants, was worth considering in the larger context of a goal of clear, articulated governance” (p. 21). In a personal communication with the Sheriff of Washington County, who previously was in the Barre City Police Department, about the consolidation of the Barre Town and Barre City Police Departments, he emphasized that if some form of “true” consolidation were to occur, there would have to be one (over-arching) board or one taking over the other. Would there be a combined board to oversee police operations or would the town or city take over the other department? He noted, however, that even a Super Board would mean that the City Council and Select Board would have to relinquish control. In another personal communication with the Chief of the South Burlington Police Department, who was previously Chief of the Barre City Police Department, “the greatest hurdle to consolidation of the Barre City and Barre Town Police is politics.” He went on to say that this problem entails “who has control or how will control be handled.” The two bodies he defined as vying for control are the City Council and the Select Board.

⁸ Currently, the Chittenden County Sheriff’s Department is only one of two sheriffs’ departments that currently do not have contracts with towns.

⁹ Besides recommending regionalized police in their 2009 study, the Public Safety Strategies Group (PSSG) recommended that the four state-level law enforcement departments be combined into one under the Department of Public Safety (p. 10).

¹⁰ At the June 4, 2009, meeting of the Law Enforcement Advisory Committee (LEAC), one member, the Director of the Criminal Division of Public Safety, felt that the 2009 PSSG study did not make compelling argument for change since it is not clear in the report that there is a problem in the delivery of services in the State of Vermont.

¹¹ At the present time, the chiefs of the two existing police departments are putting together a proposed budget for the combined jurisdictions. At the town meeting in the spring, there was two to one support for developing a consolidated police department. In November, there will be a ballot item for the creation of an intermunicipal contract between the three jurisdictions.

¹² For instance, the 1969 IACP study was undertaken by the Field Operations Division of the IACP, the 1977 study of the Department of Public Safety was titled *Task Force for the Management Study of the Department of Public Safety*, the 2009 *Independent Evaluation of Law Enforcement Services* study was undertaken by the PSSG, and the 2009 *City and Town of Barre, Vermont Feasibility Study of Consolidating Public Safety Services* was undertaken by The Mercer Group, Inc. (Consultants to Management). Two exceptions were a conference in 1990 titled *Public Safety: Adapting to Changing Times*, a report of the Nineteenth Grafton Conference, which was sponsored by The Windham Foundation, a nonprofit organization, and a brochure, *Policing Options for Local Governments*, produced jointly by the Vermont Law Enforcement Advisory Board (VLEAB) and the Vermont League of Cities and Towns (VLCT).

¹³ While Barre Town and Barre City initiated their own study, even the 1969 IACP study of Chittenden County involved an agreement signed by the Executive Director of the IACP and the Governor.

¹⁴ The concept of coverage actually includes a number of issues: the number of hours of police coverage, the number of police officers, the acceptable mix of full-time and part-time officers, the types of services provided by the agency policing the town, and the area covered by the police (Police Task Force Committee [Northfield], 1995, p. 22).

¹⁵ That has not been true in at least one case where a town did have its own police department, but after a serious case of misconduct in its police department, established a committee to determine whether to retain a police department or contract for police services from other sources. There was overwhelming support from various sources for the town to retain its own department (Police Task Force Committee [Northfield], 1995, pp. 14, 24).

¹⁶ Most others writing on the delivery of police services, while recognizing contracting as a solution, have opted for consolidation. For instance, Hooper (1996) has acknowledged

that among the strategies for providing police services in the future are described as contracting services with other agencies and consolidating services at various levels. However, he recommends that the most feasible strategy is to gradually consolidate services between multiple agencies. In a study of the potential for regionalizing policing in British Columbia in 2001, the British Columbia Ministry of Solicitor General Police Services Branch (1990) described the financial benefit of engaging the RCMP under contract to police municipalities and unincorporated areas.

- ¹⁷ Gauthier (2007), noted that “according to now-retired VSP Colonel . . . who was the highest-ranking officer in the Vermont State Police, jurisdictions desiring to contract with the VSP enter into a contract with that agency for a predetermined number of hours per month, the number to be determined by the jurisdiction’s governing body after consultation with the commander of the closest barracks. The jurisdiction is charged for the trooper’s time on a per-hour basis. The advantage to a jurisdiction of this arrangement is that the VSP is responsible for equipping and supervising the contracted trooper. The disadvantages are that trooper availability may be sporadic, the trooper may be called away to assist somewhere else, and local control can be limited” (p. 32).
- ¹⁸ According to the Town Manager of Castleton, consolidation of policing in these three towns was also prompted by the need to compensate for the closing of a State Police outpost where one department processes its offenders and was influenced by the 2009 PSSG report of police services in the state.
- ¹⁹ In their 2009 report, the PSSG found that of 579 total responses by law enforcement officials throughout Vermont, 90% agreed that 24/7 coverage was needed, even though they indicated financial implications made it impractical or unrealistic (p. 80). However, needs differ by community. In a personal communication with the former Chief of the Barre City Police Department about the consolidation of the Barre Town and Barre City Police Departments, he mentioned class differences between the town and the city. Barre Town has higher taxed properties (with lots of space) and higher-valued single family homes. Barre Town has less of a need for police services and currently do not have to pay much for police. Barre City is obviously more urban, and the demand on police services is greater there. He later noted that Barre Town taxpayers would be subsidizing Barre City (if coordinating other services).
- ²⁰ Despite this, Lithopoulos and Rigakos (2005) argue that in Canada, regionalized forces are not more efficient and effective regarding operational costs than municipal forces.
- ²¹ Besides supposedly lowering overall operating costs, higher volume of police services, lower response time, and reduction in duplication are incentives for regionalizing policing (IACP, 2003).
- ²² It should be noted that the RFP was made the year before the major economic downfall throughout the United States. Some previous studies (e.g., Storne, 1986) predicted a greater interest in consolidation when there would be a major recession or depression. At the June 24, 2009, meeting of the LEAB, the representative from the VLCT said that the economic downturn has created more interest in interlocal arrangements.
- ²³ Their recommendation for regionalization should be viewed in the context of their other recommendation to consolidate the four state law enforcement agencies, which is also motivated by the concern for saving money for the state, not just providing better coverage and services to needy rural areas (PSSG, 2009, pp. 10-11)
- ²⁴ Fairweather (1978) did include higher costs as a reason for opposition against regional police as well as no genuine need for such forces and an increasingly impersonal relationship between police and the community. In a study of future regionalization of policing in British Columbia, Canada (British Columbia Ministry of Solicitor General Police Services Branch, 1990), most mayors and police board members opposed regionalization of police services partly because of a concern for its potential cost; they were much less concerned about the maintenance of

local identity. However, police executives and other experts had a broad consensus in favor of regionalization of police services in large part because they thought it would be cost efficient if resources are consolidated and reorganized. In a study by Krimmel (1997) in North York County, Pennsylvania, results revealed that the total costs in the consolidated agency were 28% less than in the other departments and that the per capita costs were 25% less. The cost per crime incident was 50% less and the cost per call was 70% less. He concluded that his findings indicated that consolidation may provide a viable alternative strategy for smaller municipalities seeking to control rising taxes, but consolidation has some negative aspects and may not be appropriate for every municipality. Lithopoulos and Rigakos (2005) found in their study of regionalization in Canada that per capita cost differences between regional and nonregional police services, although not statistically significant, are important enough to reiterate: regional services are \$10 per capita cheaper than nonregional services. On the other hand, the nonregional services demonstrated important, albeit not statistically significant, savings in the cost per criminal code offence handled. In Vermont, the former Chief of the Barre City Police Department feels that consolidation rarely saves money, although he said he had no proof. He did mention that a previous study had been done in which a subcommittee did not recommend a merger after looking at cost savings measures.

²⁵ This was recognized by the PSSG in their 2009 study when they listed among their guiding principles for creating regionalized police target funding for regionalized police services.

²⁶ See page 56ff in the 1974 Governor's Commission report for a formula and detailed discussion of towns' willingness and ability to pay for police services. Gauthier (2007) discusses a greater expense for communities that are poorer (p. 27), and the former Chief of Barre City mentioned the differential wealth (and consequent tax base) of Barre Town and Barre City as an issue to consider in consolidating the two departments.

²⁷ The 2009 PSSG study not only noted a problem of jurisdictional role definition between levels of law enforcement, but also a problem of unity among agencies (the VSP, Fish and Wildlife, Liquor Control Division, and the Department of Motor Vehicles Enforcement and Safety Division) at the state level "in their operations, relationships among agencies and service delivery to those who live, work or visit in the state" (p. 84).

²⁸ For a discussion of the history and current authority of the sheriffs' departments in Vermont, see pages 9-14 of the 1974 Governor's Commission report.

²⁹ The 2009 PSSG study not only indicates the total number of full-time law enforcement officers in Vermont and type of agency in which they work (p. 45), but it also breaks down the number of incidents responded to by type of agency (pp. 73-74).

³⁰ In Gauthier's (2007) report, the recently retired Colonel of the VSP is quoted as stating that they needed to provide incentives for communities to move away from relying on the VSP (p. 50).

³¹ Even though, at that time, the 1974 Governor's Commission study pointed out that four sheriffs made contractual arrangements with local governments for the provision of patrol functions (p. 37).

³² The 1974 Governor's Commission study reported that there were 33 full-time sworn (14 sheriffs and nine deputies) and 617 part-time deputies (p. 30). In the survey done in that study, ten sheriffs said they would definitely replace part-time deputies with full-time deputies if possible. Only one sheriff cited a disadvantage in the use of part-time deputies (said unreliable) (p. 82).

³³ In Vermont, Shernock (2004) found in his study of a multijurisdictional task force (MJTF) a *de facto* type of consolidation—that is, that the MJTF is seen as an effective form of coordination that provides communities with improved specialized services they previously did not have while not threatening citizens' close contact with and control over their police.

³⁴ Their Plan A, to which objections were raised by some participants in the conference, "would enable State Police to concentrate their efforts on specialized units such as criminal investigation" (Grafton Conference, 1990, p. 15).

³⁵ There are numerous other obstacles to regionalization. When two departments merge, as was proposed in Barre Town and Barre City, there are differences in pay and the threat of reducing the number of officers through layoffs.

³⁶ Loveday (1990) says that many proponents of police regionalization underplay the fact that policing is mainly a local service because crime remains overwhelmingly local in nature and occurrence in spite of the increase in international crime.

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PTSD and the Police

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Use-of-force training has evolved significantly over the past several decades. Indeed, as recent events such as the Dawson College shooting in Montreal illustrate, a focus upon training exercises such as rapid deployment tactics have helped officers to respond safely and effectively to dangerous situations. However, while tactical trainers have helped officers to develop the skills necessary to deal with violent confrontations, they have fallen short when it comes to training officers to cope with the emotional and physical sequelae that often follow a violent incident. If not adequately addressed, such experiences can fuel a posttraumatic stress disorder (PTSD), alcohol abuse, anger dyscontrol, and significant levels of interpersonal conflict and family discord (Fairbank, Ebert, & Caddell, 2001; Herman, 1997; McNally, 1999). The authors are currently in the process of developing a training exercise to help officers deal more effectively with the aftermath of a violent confrontation. Unlike other tactical training scenarios, these scenarios begin, rather than end, when shots are fired. The ultimate goal of this program is to prepare officers to handle traumatic mental stress experiences as effectively, and as automatically, as they would handle a gun-toting bandit or a sucking chest wound.

It is important to address PTSD when training police officers because when we ask members of the law enforcement community to protect the public, we are asking them to take on an enormous responsibility. Such responsibility comes with many benefits (e.g., good job security, good pay, great hockey leagues, etc.), but these benefits are often accompanied by many significant costs. Perhaps the most significant of these is the continual exposure to severe forms of physical and emotional trauma.

The Risk of Developing PTSD Following Various Forms of Trauma

We need to accept that the very nature of police work puts officers in harm's way—not only physically, but emotionally as well because they are continually exposed to traumatic events such as physical assaults, homicides, and other brutal crimes. Indeed, the more one is exposed to traumatic events, the more likely it is that a person will develop a PTSD. Therefore, let's look at the risk of developing PTSD following exposure to certain kinds of trauma (*cf.* Fairbank et al., 2001; Grossman, 2008; McNally, 1999):

- Natural disasters (e.g., flood, hurricane, etc.): 5%
- Being threatened or attacked by an animal: 5%
- Being involved in a life-threatening motor vehicle accident: 10%
- Combat exposure: 30%
- Being threatened by a weapon: 33%
- Being a victim of rape: 45 to 80%
- Prolonged violent combat: 40 to 92%

These events can take an enormous toll on police officers since almost every officer we have met has been exposed to forms of urban combat and/or have been threatened or assaulted with a weapon. Consistent with this, some experts

have suggested that up to 33% of on-duty and retired police officers struggle with unresolved emotional issues associated with traumatic and violent events that they encountered while on the job (Lewis, 2004). Unfortunately, most do not address these issues in any meaningful way, and this can be disastrous because untreated PTSD can fuel many of the problems listed above, including police suicide. Indeed, statistics suggest that for every officer who is killed in the line of duty, we lose three officers to suicide (Turvey, 1995). Across North America, it has been suggested that we lose one officer to suicide approximately every 24 hours (Lewis, 2004).

Despite these alarming statistics, most officers are reluctant to seek help because of a fear of appearing weak or being stigmatized. Yet, the reality of this is that stress experiences are common following a critical incident. Failing to address them in an open and direct manner is no different than allowing an officer to reject medical help following a gunshot wound because he believes that “Real men don’t need thoracic surgery.” The goal of this article is to review the normal reactions that many officers experience in response to a critical incident and to describe effective interventions that can be used to protect officers from developing debilitating PTSD reactions.

Dynamics of Combat

In order to understand PTSD in police officers, we first need to understand what happens to the human body during a violent confrontation. In our experience, what many officers describe as strange or unusual responses to a traumatic event are not really strange or unexpected at all. Rather, they are normal and adaptive responses that help our bodies and minds cope with trauma. However, if an officer is not adequately trained to prepare for these responses, then when he or she experiences them, they can overwhelm the officer’s emotional controls and contribute to frightening symptoms of anxiety.

Physiological Effects of Urban Combat

First, we have to acknowledge that hundreds of thousands of years of evolution have provided us with valuable tools to deal with danger. As the seminal work by Grossman and his colleagues has taught us, when we are involved in a critical incident, our heart rate can accelerate to over 200 beats per minute (bpm) (Grossman, 2008; Laur, 2002). Indeed, with prolonged exposure to an incident, our sustained heart rate can be well over 200 bpm for a lengthy period of time (Hole, 2001; Siddle & Grossman, 1998). As most people are well aware, the normal heart rate is in the 60 to 80 bpm range. However, during a critical incident, this acceleration in heart rate is accompanied by a number of hormonal changes in the body.

First, the heart rate increases because three specific parts of our brain, the hypothalamus, the amygdala, and the pituitary gland, set off an alarm response (Hole, 2001). It is as if our brain says, “Holy crap, we’re in trouble.” The brain then sends a signal that activates our sympathetic nervous system—the part of the body that is charged with keeping us alive during threatening situations. What occurs when this system is activated is an epinephrine and norepinephrine dump from our adrenal glands. Our brain also sends a signal to the heart via the tenth cranial nerve to speed up the heart rate and increase the force of each heart contraction. Then, once our heart rate hits about 115 bpm, vasoconstriction occurs (Siddle & Grossman, 1998). This pushes our blood pressure higher, and it concentrates our

blood in our body core and our brain where it is needed most during a confrontation. Our airways also dilate, and we breathe more rapidly; this increases our oxygen saturation. This is adaptive because if we are stabbed or shot, we won't bleed to death as quickly, and the remaining blood in our system will have higher levels of oxygen. Coupled with this, we get an increase in muscle tension which makes our bodies stronger, faster, and more resistant to penetrating wounds (Hole, 2001).

Our pupils also dilate, and this helps us to identify threats, especially in low light situations. At the same time, our stomach stops digesting food because it will take far too long to get nourishment into our system. Consequently, our body begins to increase the level of blood sugar and blood cholesterol because they will provide us with fuel in a timely manner.

Our body also increases the level of cortisol, which not only helps to process various energy sources, but it also travels through our blood vessels to make them less permeable. Consequently, these blood vessels bleed or leak less easily when we become injured (Hole, 2001; McNally, 1999).

However, while these effects are beneficial because they increase our ability to survive a violent encounter, there is no such thing as a free lunch (Grossman, 2008). Chronic and prolonged stress causes our blood sugar and blood cholesterol levels to remain high. Cortisol also damages the walls of our blood vessels, and over time, this can cause blockages in our arteries. Tight muscles and dilated pupils can cause headaches. Interference with our stomach enzymes causes diarrhea and constipation. Hyperventilation causes light-headedness, and chronic stress also causes our white blood cell count to diminish, leaving us vulnerable to various forms of infection (Cunningham, 2002; Hole, 2001).

Another of the effects that occur when we get reduced blood flow to the extremities is a loss of muscle control. At heart rates of 115 bpm, our fine motor control begins to diminish. However, heart rates between 115 and 145 bpm prime our systems for survival, and while we lose a bit of our fine motor skills, our cognitive functions, our gross motor functions, and our visual processing skills are heightened (Siddle & Grossman, 1998). Unless we are a sniper shooting at long range, we should welcome this.

However, as our stress response increases, and as our heart rate begins to exceed 145 bpm, hyper-arousal begins to occur and our complex motor skills begin to deteriorate. What this means is that we cannot load a magazine easily, it gets harder to change channels on a radio, and we have trouble finding the transmission button on a mitre.

At a heart rate of 175 bpm and above, our body begins to prepare for a catastrophic reaction. At this point, the only things that really work well are our gross motor functions. We can run, we can grapple, and we might be able to strike somewhere on a person's body with a baton, but shooting with any accuracy will be extremely difficult because our hands begin to tremble involuntarily. In fact, when the heart rate exceeds 175 bpm, most people would be lucky to hit the side of a barn. Keep in mind that these reactions take place once our heart rate hits 175 bpm, but during a violent encounter, our sustained heart rate can remain over 200 bpm for an extended period of time.

It is important to note that these effects do not generally occur when we exercise or engage in simunitions training because the stress hormones are not secreted, even

though our heart rate may be elevated. When we are in a life and death struggle, and our stress hormones begin to flow, these characteristic responses will begin to occur. However, most officers are not aware that this will take place. Therefore, when they experience it, they often perceive that they are losing control, and this can fuel an overwhelming sense of shame or a perception that they have failed.

One other critical experience that occurs when our heart rate exceeds 175 bpm is that our mature thinking brain begins to shut down and our reflexive brain begins to kick in (Siddle & Grossman, 1998). Our forebrain is the civilized, rational, and sophisticated part of our brain that can engage in logical problem-solving behaviour. When the forebrain shuts down, our midbrain begins to take over. This brain area controls our reflex centres, and it is the more primitive system. This is the part of the brain that is activated when we deal with someone who is in a drunken rage. As any officer knows, one cannot reason with someone in this state.

Good use-of-force trainers know that we use the midbrain when we are in a violent confrontation, which is why they train us repeatedly until things are reflexive. You pull your weapon and shout "Police. Don't move!" over and over again until it is automatic and you can do it in your sleep. That is important because when our heart rate hits 175 bpm and above, we do not think; we just react with reflexive behaviour.

Other things happen, though, when we are in this state. First, our peripheral vision begins to disappear, and we get tunnel vision. The actual shape of the eye begins to change, and our depth perception begins to alter. This can make the bad guy look extremely close, and we often tune-out other stimuli such as fellow officers who are responding alongside us during a critical event.

This can also be accompanied by auditory exclusion processes. Use-of-force trainers repeatedly emphasize this phenomenon, and it is often experienced by officers during a critical incident (Bremner, 2006). It has great survival value because when we are faced with a serious threat, we channel the majority of our energy to the senses that are needed most. During a violent encounter, the primary sense that is needed is vision. Therefore, our brains process visual stimuli well, but this often occurs at the expense of our remaining senses. That is why gunshots sound loud when we observe an encounter, but they seemingly disappear when we are the one who is involved in a shooting. Other senses, such as the sense of touch, often diminish as well. This explains why we often feel as though we hardly struck a perpetrator when in fact we may have broken his or her arm during an arrest. This lack of awareness is because our muscle feedback may be lost during such an event. During a critical incident, our brains may cause us to exclude auditory, tactile, and other sensations, but we may not be aware that this is happening.

Similar perceptual distortions can take place involving memory. It is not uncommon for police officers to experience critical incident amnesia following an event (Laur, 2002). Because our brains are focused upon survival, and not upon accurately capturing memories, we may find that an officer will lose the ability to recall significant parts of an event immediately after it occurs. In many instances, the memory for parts of the event will be lost forever.

These experiences can alter our perceptions of an event significantly. For example, in a recent study by Kevin Siddle (2006), officers were exposed to a simulated violent

encounter. The officers were led to believe that they could be injured during the experiment, and they were asked to sign a waiver releasing the experimenters from liability in the event of their accidental death. This was done to increase the officers' stress level. The officers were then confronted with a violent offender, and their responses to this encounter were recorded while various aspects of the encounter were manipulated (e.g., a loud air horn was set off during the experiment in order to assess for auditory exclusion, etc.). The experimenters asked the officers to evaluate their performance, and this was compared to objective data that was gathered during the experiment. Some of the data that was obtained is illustrated in the table below.

Table 1. Police Responses to a Simulated Violent Encounter

	Perceived	Actual
Shots fired	8.26	12.71
Targets hit	4.38	3.30
Accuracy	53.00%	24.41%
Hesitation	26.19%	10.42%
Fear/panic	4.76%	16.67%
Auditory exclusion	23.81%	58.33%

As these data illustrate, an officer's perceptions of an event can differ dramatically from the objective event. It is interesting to note that the officers fired 50% more shots but hit fewer targets than they had thought. They also appeared to display more fear and panic than initially perceived. Even though more than one in four officers felt that he or she hesitated to react, the data suggest that this did not occur as often as perceived. It was also interesting to note that more than half of the officers failed to hear the loud horn during the confrontation, but only one in four recognized that auditory exclusion had taken place.

A failure to recognize and cope with these hormonally induced events can contribute to a stress reaction following a violent confrontation. We recently dealt with one young officer who was nearly beaten to death by an emotionally disturbed person who had escaped from a local hospital. During the incident, the officer called for backup, but he perceived that no one had responded to his call. He was also upset because he felt that he had failed to respond appropriately to the attack (e.g., he had struck the attacker lightly with his baton, had failed to pull his weapon, and had stood by idly as the attacker began his assault). However, when we obtained additional data from the 911 call centre, fellow officers, witness reports, and photographs taken following the assault, a very different picture emerged. It appears that the officer's calls for help were answered immediately and at least ten other officers marked onto the call within seconds. Indeed, the event lasted less than two minutes from the start of the attack to the arrest of the subject by fellow officers. Witness reports and photographic evidence also suggested that the young officer responded quickly, decisively, and appropriately (e.g., he struck the attacker repeatedly with his fists and baton, he drew his firearm, and despite the fact that the attacker was much larger than the officer, he suffered numerous serious injuries during the confrontation). However, the officer continued to berate himself for hesitating to react, and he harboured much anger toward his colleagues because he perceived that they had abandoned him during the assault. As we processed this with him, it became apparent that his reaction was one that

was marked by auditory exclusion (i.e., he could not hear responses on his mitre), critical incident amnesia, and numerous other perceptual disturbances. Once this became apparent, his stress reaction diminished significantly.

Teaching officers to anticipate these effects and training them to use autogenic breathing techniques can help to reduce the negative effects associated with a critical incident. As noted earlier, many officers are unaware that these hormonally induced effects take place because they do not generally occur during training exercises, even though heart rates can be elevated. However, when they do occur, they can be reduced by using autogenic breathing—a simple technique that has been used by military and tactical trainers for years to reduce the heart rate by up to 30% (Laur, 2002). For example, if the heart rate accelerates to a level between 175 and 200 bpm, then using autogenic breathing techniques can help to reduce the heart rate to a more appropriate target range of 115 to 145 bpm. Unfortunately, these simple techniques are often taught only to officers on tactical units, despite their potential to save lives. In order to use autogenic breathing, we merely have to slow our breathing pattern by using “belly breaths” or diaphragmatic breathing. You can do this simply by breathing in for a count of four, holding your breath for a count of four, breathing out for a count of four, and then holding your breath for a count of four. Continue to repeat this process, and you will notice that your heart rate and muscle tension will begin to diminish. This can be done even in a very stressful situation. It is important to remember to hold our breath for a count of four when we breathe in, and then again when we breathe out. This allows the oxygen and carbon dioxide levels to balance out, and this prevents many of the stress-related effects associated with hyper-arousal and hyperventilation.

Psychological Effects of Combat

In addition to these universal physiological effects, there are also a number of important cognitive behavioural effects associated with exposure to a violent encounter. The first is fear. Once again, through hundreds of thousands of years of evolution, we have developed fear structures that cause us to develop a fear response to anything that threatens us (Fairbank et al., 2001; Levitt, 1967; McNally, 1999). But, not only that, through a process of conditioning, we begin to fear other forms of stimuli that were present at the time of a violent encounter. And then, through the process of generalization, this fear can spread to a variety of other things as well.

Let us explain this through an example. If a woman is raped late at night at a bar after she has been drinking alcohol, and she is raped by a large man with a beard and long hair, she may come not only to fear that man, but all men with beards and long hair, the smell of alcohol, being alone late at night, being around parties, etc. We are biologically programmed to do this. But, over time, the fear that develops can begin to generalize to other stimuli. So, now this woman begins to fear not only tall men with beards and long hair, but all men, pictures of alcohol, social contact, and so on. It is as if she has a little voice in her head that says, “Be careful; these things can kill you.” Indeed, her heart rate will accelerate, her stomach will feel sick, and she will experience hyperventilation and sweating when exposed to these feared situations because her body is trying to keep her alive.

This fear can then be maintained through avoidance. For example, if this woman avoids all these scary scenarios, she will reduce her fear, and the relief that she obtains will teach her that her avoidance is a good thing.

If we translate this to the work of a police officer, we can see that an officer who is attacked by an emotionally disturbed person may come to fear not only the original attacker, but all emotionally disturbed people. This may also generalize to hospitals; television programs involving hospitals; or to sounds or smells that remind the officer of emotionally disturbed people, hospitals, or related stimuli. The officer may also come to have a fear response when he or she puts on a police uniform, straps on a duty-belt, or socializes with colleagues. For the officer who is attacked on duty, close contact with another human being may become fear-inducing. It is as though the brain says, "Be careful because something bad is going to happen." This may contribute to an uncontrollable urge to avoid sleeping with one's spouse or an urge to avoid displays of affection with family members. This can cause the officer to conclude that he or she is losing control and "going crazy." It can also contribute to high levels of familial discord because family members do not understand what is happening.

However, while the rape victim may be able to avoid some anxiety provoking situations fairly easily, it can be much harder for the officer to utilize avoidance strategies to remain safe. Avoiding some work situations might be extremely difficult, and if attempts at avoidance begin to falter, some officers may turn to drugs or alcohol in order to calm their inner torment and to turn off the alarm reaction.

Quite simply, the brain is programmed to set off the alarm reaction whenever it encounters anything that it believes might be harmful, and fighting this reaction is impossible. It would be much easier to hold one's breath for six minutes than to turn off the alarm reaction. We must keep in mind that the alarm is inherently adaptive. The only thing that has gone wrong is that the brain has become far too sensitive to threat, and this is extremely common following a serious critical incident. Psychological treatments, such as cognitive-restructuring exercises and systematic-desensitization procedures, are designed to normalize these experiences, and they can help to return the officer to his or her normal level of adaptive daily functioning fairly quickly.

Diagnosing PTSD

Diagnosing PTSD itself is important because, while a high level of physiological and psychological stress in response to combat is normal, if we are not prepared to deal with our reactions appropriately, then we cannot fight these reactions, and this can lead to the development of PTSD. PTSD is a severe set of symptoms that can develop following a critical incident, but in many cases, officers who suffer from it go untreated for lengthy periods of time because the symptoms are not recognized. PTSD can be treated with brief forms of intervention if it is detected early (Fairbank et al., 2001; Foa & Rothbaum, 1998). If it is not, then it may take years to fix it, and in some cases of severe untreated trauma, the problem will never completely resolve.

So, how do we diagnose PTSD? According to the *DSM-IV-TR* (the *Diagnostic and Statistical Manual of Mental Disorders*) (American Psychiatric Association [APA], 2000) (our diagnostic manual for stress reactions), we must first have exposure to a traumatic event that involved actual or threatened death or serious injury. The person's response to this event must involve intense fear, helplessness, or horror.

Next, we see the development of symptoms that come together in three clusters. First, the traumatic event tends to be re-experienced in one or more of the following ways:

- Intrusive and distressing recollections of the event
- Recurrent distressing dreams of the event
- Acting or feeling as if the traumatic event were recurring (e.g., illusions, hallucinations, dissociative flashbacks, etc.)
- Intense psychological distress upon exposure to internal or external cues that resemble the traumatic event
- Physiological reactivity upon exposure to internal or external cues that resemble the traumatic event

Next, there are three or more symptoms that represent a persistent avoidance of stimuli that are associated with the traumatic event such as the following:

- Efforts to avoid thoughts, feelings, or conversations associated with the trauma
- Efforts to avoid activities, places, or people that arouse recollections of the trauma
- An inability to recall an important aspect of the trauma
- Markedly diminished interest or participation in significant activities
- Feeling detached or estranged from others
- A restricted range of emotions (e.g., unable to have loving feelings, etc.)
- A sense of a foreshortened future (e.g., person does not expect to have a career, marriage, children, or a normal life span)

Finally, there are two or more symptoms of increased arousal, as evidenced by the following:

- Difficulty falling or staying asleep
- Irritability or outbursts of anger
- Difficulty concentrating
- Hypervigilance
- Exaggerated startle response

If the symptoms last for more than one month, and if they cause significant distress or impairment, then a PTSD can be diagnosed.

Other Problems Associated with PTSD

PTSD not only causes the difficulties that we have listed here, but there are a number of other serious problems, what psychologists call co-morbid disorders, that can accompany PTSD. In fact, of all of the people who are diagnosed with PTSD, an astounding 80.0 to 98.8% also struggle with at least one other clinical issue (Fairbank et al., 2001; McNally, 1999).

The most common co-morbid problems that accompany PTSD include the following:

- *Panic Attacks* – The characteristic symptoms of increased arousal that we described earlier can occur daily, and the person who experiences them can fear that they are dying or losing complete control of their mind. The symptoms of panic are usually adaptive responses to stress, but they often get misinterpreted because they begin to occur in response to seemingly innocuous stimuli.
- *Depression* – An inability to cope with PTSD can cause feelings of depression, and this is significant, not only because it makes the person unhappy but because

it causes structural and chemical changes in the brain that interfere with daily functioning.

- *Substance Abuse* – When someone with PTSD cannot control his or her symptoms, they can shut down and become severely avoidant, or they can turn to alcohol and drugs to numb their torment. Some people cannot sleep without drugs or alcohol, and while they obtain symptomatic relief on a short-term basis, over the long run, this only serves to make a bad problem much worse.
- *Anger and Irritability* – Anger and irritability can occur when the officer believes that he or she has been mistreated by his or her coworkers and supervisors, but it can also occur as a response to excessive internal stimulation. Officers who become aggressive and argumentative with their colleagues, their family members, or with members of the public following a critical incident should be routinely screened for signs of PTSD.
- *Further Traumatization* – When the officer struggles with PTSD, depression, substance abuse, and/or anger or irritability, a series of events is triggered that can increase the likelihood that the officer will put him- or herself in harm's way. We have seen many traumatized officers who struggle with shame and guilt, and in order to cope with these symptoms, they put themselves in harm's way in order to prove to themselves and their peers that they are not weak.
- *Vicarious Traumatization* – This refers to PTSD symptoms that develop in spouses and children of officers involved in a traumatic event. These symptoms can mimic those seen in the officers themselves, and in many cases, they are worse. Left untreated, these problems can lead to divorce, domestic violence, and other serious difficulties.

Risk Factors for PTSD

It is difficult to predict who will get PTSD, but we can describe three specific types of risk factors that will increase the likelihood that an officer will get it (Fairbank et al., 2001; Herman, 1997; McNally, 1999). The first risk factor consists of pre-trauma risk factors. These are factors that we bring to the critical incident, and they include such things as the following:

- *A Pre-Existing Psychological Problem* – This is important because this represents a vulnerability factor that can make someone more susceptible to getting PTSD. This may not seem like a critical issue until you realize that between 17 to 20% of the general public will have struggled with depression alone. Those who have a pre-existing history of psychological stress will be at twice the risk of getting PTSD.
- *Family History of Psychiatric Illness* – Once again, this can predispose individuals to PTSD because it may reflect an underlying predisposition toward getting the disorder.

The second group of risk factors are things that we call peri-traumatic risk factors. This refers to risk factors that exist at the time that the trauma takes place. Such risk factors include the following:

- *A Perceived Life Threat* – This is a subjective experience that can differ between officers who attend the same call. The higher the perceived life threat, the higher the risk of PTSD. This can double your risk of PTSD.
- *Actual Injury or Death* – This is an objective risk factor. Suffering a physical injury or witnessing a serious injury or death taking place increases the risk of getting PTSD. Estimates are that 45% of those who perceive that their life was threatened and/or who suffer an injury during an assault will develop PTSD.
- *Proximity to the Trauma* – The closer you are to the event and the more involved you are in it, the greater your risk of getting PTSD. Close proximity to the traumatic event can increase your risk of getting PTSD by five-fold.

Finally, the third type of risk factors that can predispose an officer to getting PTSD are what we call post trauma risk factors. The most consistently studied factors that predispose officers to PTSD are a lack of social support and a lack of unit cohesion following exposure to a traumatic event. Officers who are provided with social support and who are members of a cohesive unit tend to respond better when they develop PTSD.

Unfortunately, many officers are subjected to something that we call the *Just World Hypothesis* (Lerner & Miller, 1978). This term refers to the process by which fellow officers respond to the critical incident by blaming the person who was involved in it. This occurs because many people believe that the world is a just place where good things happen to good people and bad things happen to bad people. This does not reflect reality, but it is a self-protective mechanism that allows us to believe that people get what they deserve. Therefore, if a colleague is traumatized, it is because they are weak, were poorly trained, or “froze.” As a result, “What happened to them can’t possibly happen to me.” This makes us feel safe, but it is truly an illusion. Furthermore, using the Just World Hypothesis only serves to alienate those who are traumatized, and it increases the likelihood that they will suffer from PTSD.

Preventing and Treating PTSD in Police Personnel

PTSD can be treated (*cf.* Fairbank et al., 2001); however, in order to do so effectively, we need to pick it up early. If it is not recognized early, the condition can be very difficult to resolve, and in some cases, the officer will never recover. If we get to the symptoms early, then we may be able to resolve the condition within 12 to 16 hours of treatment. However, if the traumatic stress response is severe, then we may be looking at a year or more to resolve it.

The first thing that we can do to reduce the effects of PTSD is to take it out of the closet. We need to demystify it. It is not a sign of weakness or evidence that one is a “mental.” People do not have to have their guns taken away because they have PTSD.

The second thing that we can do is to create programs that provide for Stress Inoculation Training (SIT). Ideally, these programs teach recruits what is normal when one deals with a violent encounter since a lack of knowledge can lead to traumatic stress symptoms. The SIT programs help recruits to identify these normal reactions, and they also help them to identify signs of the more serious PTSD response so that they can access treatment services while they can still benefit

from treatment. By learning how to respond to critical incidents, the emotional and physical impact on our officers can be greatly reduced.

Third, we need to embed mental health professionals within police units. The U.S. military has done a great job with this because they have embedded psychologists within fighting units, and it is much easier to have soldiers access proper treatment services because they are already familiar with the psychologists from training exercises and social situations. We have personally had officers contact us because we have been involved with them in hockey leagues, through tactical training exercises, or through social activities organized by police associations. These officers come to trust that they can count on our support long before they encounter a traumatic incident, and they are more likely to contact us if they know us personally and can access us at any time.

Finally, when PTSD does develop, we need to access a trained mental health professional quickly. It is important to note that untreated PTSD can lead to chemical and structural changes in the brain. These problems can be treated effectively through the use of a three-stage model that was developed by Judith Herman (1997). Essentially, this model teaches officers to use safety strategies to control seemingly overwhelming symptoms (e.g., depression, panic attacks, nausea, etc.). Safety can be achieved through breathing strategies, relaxation, education regarding PTSD and the recovery process, and possibly even the use of anxiolytic medications. In the next stage, officers learn to recall their trauma in a safe and effective manner while remaining calm and relaxed. This is a specialized process that allows the officer to learn that thinking about, dreaming about, or talking about the incident is quite different from experiencing it. In essence, this helps to reset the brain's alarm system so that it does not activate when confronted with innocuous stimuli. Over time, and with the help of a trained professional, this can lead to the return to a healthy and normal lifestyle.

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Police Practices of the North Carolina Highway Patrol: Do Police Target Minorities?

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Introduction

According to the 2001 Gallup Poll, 55% of whites and 83% of blacks believe racial profiling in the United States is widespread (as cited in the American Civil Liberties Union [ACLU], 2009). Some estimates indicate that nearly 32 million people have been the target of racial profiling (Amnesty International USA, 2006). Racial profiling is the inclusion of race as a primary determinant in the characterization of a person considered likely to commit a particular type of crime. Currently, 33 states have no or only partial bans on racial profiling (see Appendix A, Figure 1).

Racial profiling may take many forms. For example, minorities report that they have been the victims of racial profiling while walking, shopping, and driving (see Fifield, 2001; Gelman, Fagan, & Kiss, 2005; Lundman & Kaufman, 2003). Although there has been a significant amount of discussion about racial profiling in the last two decades, its extent and distribution remain uncertain. The purpose of this study is to investigate the police practices in North Carolina to deepen our understanding of its existence and form in a southern state. The goal is to ascertain if the practice of racial profiling is in fact occurring, and what police practices are most vulnerable to abuse toward this end.

Literature Review

The majority of studies on racial profiling have investigated a phenomenon known as "Driving While Black or Brown" (DWB). In other words, most researchers have examined whether race or ethnicity plays a role in police officers' decisions to stop motorists. To date, the research has focused on two primary questions: Do police officers disproportionately stop and detain blacks and other minorities *and* do police officers consider the race of the individual in making decisions to formally process them through the criminal justice system?

Lundman and Kaufman (2003) conducted a study to determine if African Americans and other minorities were more likely to be pulled over by the police for alleged traffic violations. Critical of the majority of data collection conducted by law enforcement departments, they used driver self-report data from a nationally representative sample (N = 7,054) gathered by the National Crime Victimization Survey (NCVS). Subjects at least 16 years old were asked a series of questions about whether they had been victimized by crime and had come into contact with police during the previous 12 months. Only respondents who reported at least one traffic stop in which they were the driver (7,034 observations) were chosen for the study. Lundman and Kaufman were trying to discover what types of socioeconomic variables were used

by police as pretextual reasons for the stop. The variables they were most interested in were age of respondent, gender, race, social class, and jurisdiction population. The respondent's "perception of the legitimacy of the stop" and "whether the police acted properly" were included to demonstrate the driver's viewpoint. In all models, Lundman and Kaufman found that men generally, and African American men in particular, were more likely to be stopped than either whites or women. African Americans and Hispanics were more likely to feel the traffic stop was unwarranted; giving the impression there is an erosion of citizen confidence in law enforcement among minorities. The findings suggest that police may be making traffic stops for DWB. Additionally, African-American and Hispanic drivers are more likely to report that police used some type of pretext for the stop and were more likely to report that police acted inappropriately during the stop.

Weitzer and Tuch (2002) conducted a national level study on citizens' opinions of racial profiling by police officers. The researchers concluded that African Americans disapprove of racial profiling, believe that the practice is widespread, feel they are treated less fairly by the police, and have a lower opinion of police officers. Also, social class affects the views of the acceptance and prevalence of racial profiling among the black community. However, their findings showed that "the effects of perceived personal experience on attitudes toward the police were not more pronounced for blacks than for whites, an indication of the power of this kind of unpleasant personal experience whatever one's race" (p. 449). They found with all races and ethnic minorities, unpleasant personal contact with the police tend to lessen their opinion of police officers. Surveys demonstrate that African Americans are more likely than whites to believe that the police treat minorities different from whites. Even those who believe that minorities are treated differently may explain or justify this disparity by invoking the notion of "rational discrimination" (MacDonald, 2003, p. 119).

Similar studies have found that African-American drivers are subjected to more traffic stops in certain parts of the country. For instance, Lamberth, Clayton, Lamberth, Farrell, and McDevitt (2005) conducted a study on the New Jersey Turnpike on randomly selected days during 1988 and 1991 and discovered that African-American motorists made up 35% of all traffic stops and 73% of all arrests, even though they represented only an estimated 13% of drivers. Police officers not only excessively stopped African-American drivers, but they also targeted this racial group to conduct searches. Also, a study conducted in Ohio found evidence that African Americans were twice as likely as whites to be given tickets in the cities of Akron, Dayton, and Toledo between 1967 and 1997 (cited in Harris, 1999).

Novak (2004) also examined whether the race of the driver played a role in police officers' decisions to make a traffic stop and whether race affected police officers' decisions to give the alleged traffic violator a warning or issue a ticket or arrest. A data collection instrument was created to gather information on all traffic stops conducted by the Overland Park Police Department (OPPD), Kansas, from July 1 to November 30, 2000. The data collection instrument was created by a diverse number of government and citizen representatives, including high-ranking officials in the OPPD, a chief of police from a neighboring city, representatives from both the ACLU and the National Association for the Advancement of Color People (NAACP), and local criminal justice academicians. Police officers were required to report information associated with all traffic stops to the dispatcher, which was recorded by the dispatcher. Demographic information (e.g., age, race, gender) as well

as the disposition of all stops were recorded. The sample (N = 10,473) consisted of drivers stopped in Overland Park, of which 12% or 1,271 were minorities. The results indicated minorities were more likely to be stopped by police. In addition, minorities were significantly less likely to receive formal sanctions than majorities. Although at first glance these findings may appear to be a more favorable outcome for minorities in comparison to majorities, in reality, the data suggest officers are using alleged traffic violations for pretextual stops.

Ikner, Ahmad, and del Carmen (2005) conducted a study to determine whether police officers used vehicle symbols and cues to determine the race or ethnicity of drivers. A sample (N = 120) of full-time officers from the Arlington Police Department, Texas, were included in the study. Officers were shown a videotape of ten vehicles being operated on the roads of Arlington. The videotaped vehicles were accompanied by brief driving scenarios that were professionally edited. In seven of the scenarios, the drivers were perceived by the officers to be white. However, drivers of three other vehicles were perceived to be a minority at a higher rate than expected given their presence in the population. Ikner et al. concluded this behavior may be another example of discriminatory behavior among police officers that is more subtle.

Knowles, Persico, and Todd (2001) downplayed and attempted to compensate for previous comparisons “that the proportion of African Americans among the drivers searched by police far exceeds the proportion in the general population of drivers” (p. 204). In their model, drivers differ in their characteristics, including race and other factors not readily observable by officers but which may or may not be available to researchers. A mathematical model is used to separate the fundamental reasons for racial profiling by making a distinction between “statistical discrimination” and ordinary racial prejudice. Statistical profiling happens whenever police officers rely on race as one factor among others to increase successful search rates. Ordinary racial profiling is when police officers target minorities based solely on race.

In Knowles et al.’s (2001) study, they allowed drivers of different races to have different distributions of characteristics as long as those characteristics are observable by the police. Motorists with different characteristics may have different costs and benefits from carrying an illegal substance, but these differences imply that the police officer will stop and search drivers with different characteristics at different rates. The data used in the study consisted of 1,590 vehicle searches conducted on Interstate Highway 95 in Maryland from January 1995 to January 1999. Variables in the study included the motorist’s sex, race, make and model of vehicle, time, date, and year of stop, probable cause, consent search, and whether anything was found. The dependent variable used in the study was the search itself, not the stop. The authors discovered that African-American motorists were searched more often than white drivers, but the probability of finding an illegal substance varying by race was not statistically significant, implying that racial profiling was occurring. However, they also found that the inequality in the “search” dependent variable was due to “statistical discrimination,” not racial profiling.

Research conducted by Engel and Calnon (2004) examined whether minorities were more likely to receive some type of formal sanction, such as traffic citations or arrests, and whether they were more likely to be subjected to searches and use of force by the police. They used driver self-report data from a nationally representative sample (N = 7,054) gathered by the NCVS. Engel and Calnon

found that the likelihood of citations, searches, arrests, and use of force increased significantly if the motorists were males from a minority group, especially if they were African American or Hispanic. However, they found that minority drivers were *not* more likely to be in possession of contraband than white drivers.

Similarly, Zingraff, Smith, and Tomaskovic-Devey (2000) analyzed 1998 traffic stop data from the North Carolina Highway Patrol using the race distribution of licensed drivers at risk of being stopped. Using citations, written warnings, and searches, the study found some significant findings concerning racial profiling. Of the licensed motorists in North Carolina in 1998, 74.0% were white, 19.6% were black, and 6.4% were other. The total percentage of citations or written warnings for whites was 71.1% compared to 22.8% for African Americans, indicating that whites were underrepresented by 2.9%, while African-American drivers were over-represented by 3.2%. Additionally, blacks were significantly more likely than whites to be searched even though they were slightly less likely to be in possession of contraband (i.e., weapons, drugs, etc.).

The research reviewed overwhelmingly indicates that blacks and other minorities are disproportionately stopped by the police. In addition, the research suggests that blacks and other minorities are more likely to be subjected to searches of their vehicles, issued citations, and to experience use of force by police. The purpose of this study is to determine if racial profiling is occurring and whether and what police practices might lend themselves to racial profiling.

Methodology

Sample

This study examines the racial distribution of citations produced in a six-month period between January 1, 2000, and July 31, 2000, by the North Carolina Highway Patrol in an attempt to better understand what factors may be related to that distribution. The data used in this study include information obtained from the North Carolina State Highway Patrol citation database and data from the North Carolina Division of Motor Vehicles. The dataset was downloaded from the Inter-University Consortium for Political and Social Research (ICPSR Study No. 4078).

The North Carolina Highway Patrol provided data on all vehicular stops, citations, and written warnings its patrol officers issued in 2000. Information in the data included the purpose for the stop, race, sex, age of the driver, and the make and model of vehicle. The gathering of this information was the result of the North Carolina State Legislature mandating that the highway patrol department collect data on the racial distribution of all vehicular stops.

This agency may provide important insight into police practices occurring at the state level. To be sure, the North Carolina State Highway Patrol differs from local police agencies in terms of professionalism; it is a state-level agency that is highly bureaucratic in structure and operation. State agencies are usually described as having broader recruitment, higher standards of education requirements, and longer inservice training than most police agencies (North Carolina Department of Crime Control and Public Safety, 2006). According to the professional model of policing, these standards should help to reduce racial disparity in traffic stops.

The North Carolina Highway Patrol mainly deals with traffic enforcement and accident investigation, rarely engaging in crime control. Therefore, racial disparity should be modest compared to agencies that primarily engage in crime control. To determine whether there is racial disparity in traffic stops in a particular area, the racial distribution of the general population is used for comparison. The sample includes Part 1 of the dataset consisting of North Carolina motorists stopped by the police between January 1, 2000, and July 31, 2000 (N = 332,861). Variables in Part I include stop date; time; purpose; county; interstate number or road name; state of vehicle registration; year, make, and model of vehicle; driver race, age, and gender; and the action of the officer. Because law enforcement officers self-report, there is always a possibility they may misreport to avoid implicating themselves in the practice of DWB.

Sample Characteristics

There were 332,861 traffic stops in North Carolina between January 1, 2000, and July 31, 2000. The sample was 70% white, 23% black, and 7% percent other.

Census

To determine whether there is racial disparity in traffic stops in a particular area, the racial distribution of the general population was acquired from U.S. Census Bureau data for 2000. In this year, the total population of North Carolina was 8,049,313, with a white population of 5,804,656 (72.1%), a black population of 1,737,545 (21.6%), and other races having a combined total population of 507,112 (6.3%).

In Appendix B, Figure 2 indicates a larger black population in eastern North Carolina, and Figure 3 indicates a larger white population in western North Carolina. According to U.S. Census Bureau (2000) data, six counties in North Carolina contain 32% of the state's population: Cumberland, Durham, Forsyth, Guilford, Mecklenburg, and Wake. These counties have a higher than average black population and are all sites of interstate roadways in North Carolina.

Dependent Variables

Traffic Stop Outcome

The dependent variable for the analysis is the "outcome of the traffic stop." This includes warning citations, traffic citations, and verbal warnings issued to drivers in the State of North Carolina in the year 2000. Citation categories include speeding violations, nonspeeding moving violations, investigatory stops, seatbelt violations, equipment violations, and regulatory violations.

Purpose of the Stop

The variable "purpose of the stop" included driving under the influence (DUI), investigation (INV), other moving violation (OMV), safe movement violation (SAFE), speeding (SPD), seatbelt violation (STBLT), stoplight or sign violation (STPLT), vehicle equipment violation (VEHQP), and vehicle regulatory violation (VEHRG). This variable was recoded into two categories: (1) [DUI, INV] and (2) [OTHER]. This variable was recoded in this fashion to better understand pretext stops by the police.

Because of negative racial stereotypes, police officers may be more likely to believe that black and other minority motorists are more likely to be under the influence of alcohol or drugs or to be in possession of alcohol or drugs. As a result, blacks and other minorities may be subjected to more traffic stops than whites.

Independent Variables

Race

The measure of racial composition of motorists at risk for traffic stops is included in the analysis in order to better understand the ratio of citations given to black and other minority drivers compared to white drivers. The race variable was coded as 0 = White, 1 = Black, and 3 = Other.

Geographic Region

For the present study, North Carolina was divided into two regions, East and West, by counties—50 counties in the Western half and 50 counties in the Eastern half. This was done to explore the proportions of traffic stops in these two regions. The state consists of a larger population of whites in the Western region, and a larger population of blacks in the Eastern region. In the West, whites comprised 76.0% of the population; blacks, 15.4%; and other minorities, 8.6%. In the East, it was 60.5% white, 27.6% black, and 11.9% other. Other researchers have not examined whether geographical region is related to instances of racial profiling (see, e.g., Zingraff et al., 2000).

Analysis

Confidence Intervals

The analysis for these data consists of a two prong test: (1) confidence intervals and (2) crosstabulation. Computing confidence intervals for proportions is an important inferential method in the analysis of data. The purpose of confidence intervals is to give us a range of values for our estimated population parameter rather than a single value or a point estimate (Bachman & Paternoster, 1997). The estimated confidence interval gives us a range of values within which we believe, with varying degrees of confidence, that the true population value falls. A confidence interval is determined using sample data and a chosen level of confidence. The most commonly used confidence levels are 95% and 99%, just as common levels of significance are 0.05 and 0.01.

This procedure gives an estimated range of values that is likely to include the statistic of interest and is calculated from a particular set of data. A confidence interval has an upper and lower limit with the difference between these limits referred to as the width of a confidence interval. When using confidence intervals, the researcher usually wants a high confidence and a narrow width. If the confidence interval is overly wide, the conclusions drawn from the data are not as noteworthy. Because confidence intervals provide a range of plausible values for the population, they may be more informative than other types of significance testing.

For the current analysis, confidence intervals are computed around point estimates that are subsequently compared to census data, which includes information on the

racial composition of the population of North Carolina. We would expect the census data to fall within the obtained confidence interval if racial profiling is not occurring.

Crosstabulation

For this study, multilayer crosstabulation is used to analyze the data. Multilayered crosstabulation allows for a more detailed analysis of the data by controlling for a third variable.

The Chi-Square test of statistical significance is used to determine the likelihood that the variables are unrelated at the population level (Bohrstedt & Knoke, 1994)—that is, it tests the null hypothesis of no relation. The alternative hypothesis is that the variables are related in the population. The Chi-Square test compares the observed cell frequency with the expected cell frequency. For this study, Cramer's V is an appropriate measure of association for nominal data that are arranged in larger than 2×2 tables. Cramer's V is a measure of association of the strength of relationship between two variables. It ranges in value from zero to one, where zero indicates the complete absence of a relationship and one indicates a perfect relationship.

Findings

The U.S. Census Bureau (2000) data for North Carolina is used for comparison to see whether race is related to the outcome of the stop after controlling for region. The findings for the Eastern region of North Carolina are presented first followed by the presentation of the findings for the Western region.

For the Eastern region, 60.5% of the total population is white, while 27.6% is black and 11.8% is other minority. Using a 99% confidence interval, the proportion of whites who should be receiving citations ranges from 65.2 to 68.2% after controlling for purpose of the stop and region (East), while the proportion of whites is 60.5% according to the census. Blacks represent 27.6% of the population, but the proportion of blacks receiving citations ranges from 16.8 to 19.2%. These findings indicate that blacks are receiving fewer citations than would be expected. However, after looking at the "other" minority category, the pattern of racial profiling reemerges. That is, the proportion of other minorities receiving citations ranges from 14.1 to 16.5%, but other minorities only make up approximately 11.8% of the population in the East.

The findings on the proportion of whites and blacks receiving warnings differ from those reported for the proportion of whites and blacks receiving citations. The proportion of whites who should be receiving warnings ranges from 75.3 to 77.9%, which is much higher than the proportion of whites (60.5%) reported in the census. In comparison, whites are being issued fewer citations and more warnings. The proportion of blacks receiving a warning ranges from 17.0 to 19.4%, which is much lower than the proportion of blacks (27.6%) reported in the census. After examining the proportion of citations and warnings issued to black motorists, it appears that blacks are receiving fewer citations and warnings than would be expected. The proportion of other minorities receiving warnings ranges from 5.0 to 7.4%, which is much lower than the proportion of other minorities (11.9%) reported by the census.

Table 1 shows the percentage of motorists who received citations or warnings within and across race for the Eastern region. Out of the total number of white

motorists, 64.5% were issued citations. Of all the black motorists stopped, 68.6% received citations. Black motorists were slightly more likely than white motorists to receive citations. Out of the total number of other minority motorists stopped, 83.8% received citations. This latter finding indicates that other minority motorists were more likely to receive citations than black and white motorists. Out of the total number of white motorists stopped, 35.5% received warnings, while 31.4% of black motorists received warnings. Out of the total number of other minority motorists, 16.2% received warnings. White motorists were more likely to receive warnings than black or other minority motorists.

The Chi-Square of 120.6 falls in the critical region; therefore, we reject the null hypothesis and conclude that there likely exists a relationship between race and outcome of stop while controlling for purpose of the stop and region. It should be noted that Chi-Square is adversely affected by sample size. That is, in large samples the χ^2 is likely to be inflated. This means that we are more likely to reject the null hypothesis when it is true. Therefore, we should inspect the Cramer's V for substantive significance. Cramer's V is 0.134, which indicates a moderate association between race and outcome of the stop while controlling for type of stop and region (East).

Table 1. Layered Crosstabulation Race by Outcome of the Stop Controlling for Type of Stop and Region (East)

Eastern Stop Outcomes	Race			Total
	White	Black	Other	
Citation count	3,015	816	692	4,523
% within stop outcome	66.7%	18.0%	15.3%	100.0%
% within race	64.5%	68.6%	83.8%	67.6%
Warning count	1,662	374	134	2,170
% within stop outcome	76.6%	17.2%	6.2%	100.0%
% within race	35.5%	31.4%	16.2%	32.4%
Total count	4,677	1,190	826	6,693
% within stop outcome	69.9%	17.8%	12.3%	100.0%
% within race	100.0%	100.0%	100.0%	100.0%

Chi-Square = 120.6; $p < 0.001$; Cramer's V = 0.134

Table 2 shows the results of the layered crosstabulation of race by outcome of the stop controlling for type of stop and region (West). The findings reported in Table 2 are dramatically different from those reported in Table 1. Using a 99% confidence interval, the proportion of whites receiving citations range from 38.5 to 41.1%, which is much lower than the proportion of whites (76.0%) reported in the census. The proportion of blacks receiving citations range from 34.5 to 37.1%, which is much higher than the proportion of blacks (15.4%) reported in the census. The results suggest that blacks disproportionately receive more citations than whites. In comparison, blacks in the West receive more citations than blacks in the East (see Tables 1 and 2).

Findings also indicate that the proportion of whites who should be receiving warnings ranges from 56.2 to 58.8%, which is much lower than the proportion of whites (76.0%) reported in the census. The proportion of blacks who should be receiving warnings ranges from 33.9 to 36.5%, which is much higher than the proportion of blacks (15.4%) reported in the census. Thus, blacks disproportionately

receive more warnings than whites. In comparison, blacks in the West receive more warnings than blacks in the East (see Tables 1 and 2).

Table 2 shows the percentage of motorists who received citations or warnings within and across race for the Western region. Out of the total number of white motorists, 58.4% were issued citations. Of all the black motorists stopped, 67.4% received citations. Black motorists were more likely than white motorists to receive citations (a difference of 9.0%). Out of the total number of other minority motorists stopped, 87.2% received citations. This finding indicates that other minority motorists were more likely to receive citations than black and white motorists. Out of the total number of white motorists stopped, 41.6% received warnings while 32.6% of black motorists received warnings. Out of the total number of other minority motorists, 12.8% received warnings. White motorists were more likely to receive warnings than black or other minority motorists.

The Chi-Square of 447.9 falls in the critical region; therefore, we reject the null hypothesis and conclude that there likely exists a relationship between race and outcome of stop while controlling type of stop and region. Cramer’s V is 0.223, which indicates a moderate association between race and outcome of the stop while controlling for region.

Table 2. Layered Crosstabulation Race by Outcome of the Stop Controlling for Type of Stop and Region (West)

Western Stop Outcomes	Race			
	White	Black	Other	Total
Citation count	2,403	2,163	1,474	6,040
% within stop outcome	39.8%	35.8%	24.4%	100.0%
% within race	58.4%	67.4%	87.2%	67.0%
Warning count	1,709	1,044	217	2,970
% within stop outcome	57.5%	35.2%	7.3%	100.0%
% within race	41.6%	32.6%	12.8%	33.0%
Total count	4,112	3,207	1,691	9,010
% within stop outcome	45.6%	35.6%	18.8%	100.0%
% within race	100.0%	100.0%	100.0%	100.0%

Chi-Square = 447.9; $p < 0.001$; Cramer’s V = 0.223

Table 3 shows the layered crosstabulation of race by region controlling for type of stop. Using a 99% confidence interval, the proportion of whites being stopped for DUI and investigative stops in the East has a range of 68.1 to 70.3%, which is more than would be anticipated (60.5%). The proportion of blacks being stopped for DUI and investigative stops in the East has a range of 16.7 to 18.7%, which is less than the proportion of blacks residing in that region (27.6%) according to the census. Other minorities represent about 11.8% of the population in the East, and the proportion of other minorities being detained for DUI and investigative stops range from 12.0 to 13.8%.

In the West, the proportion of whites being stopped for DUI and investigative stops has a range of 45.4 to 47.8%, which is well below the proportion of whites residing in that region (76.0%) according to the census. The proportion of blacks

being stopped for DUI and investigative stops has a range of 33.8 to 36.0%, which is well above the proportion of blacks residing in that region (15.4%) according to the U.S. Census Bureau. Likewise, the proportion of other minorities in the West being stopped for DUI and investigative stops has a range of 17.6 to 19.4%, which constitutes about 8.6% of the population. These findings suggest that racial profiling is occurring, particularly in the West.

Table 3 shows the percentage of motorists stopped for DUI and investigative stops in the Eastern and Western regions. Of the total number of white motorists stopped in North Carolina, 53.1% were stopped for DUI and investigative stops in the East, and 46.9% were stopped for these types of stops in the West. Out of the total number of black motorists stopped in North Carolina, 27.8% were stopped for DUI and investigative stops in the East, while 72.2% were stopped in the West. This finding indicates that black motorists in North Carolina are much more likely to be stopped for DUI and investigative type stops in the West than in the East. Of the total number of other minority motorists stopped for DUI and investigative stops in North Carolina, 34.6% were stopped in the East while 65.4% were stopped in the West. In other words, other minority motorists were much more likely to be stopped for DUI and investigative type stops in the West than in the East.

The Chi-Square of 1,093.4 falls in the critical region. We reject the null hypothesis and conclude that there likely exists a relationship between race and outcome of stop while controlling for region. Cramer’s V is 0.232, which indicates a moderate association between race and DUI and investigative stops.

Table 3. Layered Crosstabulation Race by Region Controlling for Type of Stop

DUI, INV	Race			Total
	White	Black	Other	
Eastern count	6,076	1,552	1,129	8,757
% within region	69.4%	17.7%	12.9%	100.0%
% within race	53.1%	27.8%	34.6%	43.2%
Western count	5,359	4,023	2,130	11,512
% within region	46.6%	34.9%	18.5%	100.0%
% within race	46.9%	72.2%	65.4%	56.8%
Total count	11,435	5,575	3,259	20,269
% within region	56.4%	27.5%	16.1%	100.0%
% within race	100.0%	100.0%	100.0%	100.0%

Chi-Square = 1,093.4, $p < 0.001$, Cramer’s V = 0.232

Tables 4 and 5 show the layered crosstabulation of race by type of stop controlling for region (Eastern and Western, respectively) for individuals driving luxury vehicles.¹ This hypothesis was not examined by Zingraff et al. (2000), who performed the original analysis of the North Carolina Highway Patrol data, but we feel it is important. This hypothesis tests whether negative stereotypes about minorities are related to racial profiling. Namely, we are interested in determining whether black and minority motorists are more likely to be stopped for DUI or investigative purposes (pretextual stops) if they are driving luxury vehicles because this negative stereotype of minority motorists is erroneously believed by many police officers to fit a “drug courier profile” (see, e.g., ACLU, 2007; Ikner et al., 2005; Lundman & Kaufman, 2003).

In the Eastern region of North Carolina, 3.7% of the motorists driving luxury cars who were stopped for DUI and investigative stops were white. The percentage of black motorists driving luxury cars who were being stopped for DUI and investigative stops was 6.7%. The data indicate that black motorists are being stopped more often than white motorists for these types of stops. Other minority motorists are being stopped more frequently (5.1%) than white motorists but less frequently than black motorists. The results indicate that police are more likely to stop black and minority drivers of luxury vehicles than whites who drive luxury vehicles.

The Chi-Square (Eastern region) of 24.9 falls in the critical region. Thus, we reject the null hypothesis and conclude that there is a relationship between race and type of stop controlling for region (East). However, Cramer’s V is 0.062, which indicates little substantive significance.

Table 4. Crosstabulation of Race by Type of Stop Controlling for Eastern Region (Luxury Cars Only)

Eastern Region	Race			Total
	White	Black	Other	
DUI, INV count	173	108	14	295
% within stop purpose	58.6%	36.6%	4.7%	100.0%
% within race	3.7%	6.7%	5.1%	4.5%
Other count	4,498	1,511	258	6,267
% within stop purpose	71.8%	24.1%	4.1%	100.0%
% within race	96.3%	93.3%	94.9%	95.5%
Total count	4,671	1,619	272	6,562
% within stop purpose	71.2%	24.7%	4.1%	100.0%
% within race	100.0%	100.0%	100.0%	100.0%

Eastern Chi-Square = 24.9; $p < 0.001$; Cramer’s V = 0.062

In the Western region of North Carolina, 3.8% of the motorists driving luxury cars who were stopped for DUI and investigative stops were white (see Table 5). The percentage of black motorists driving luxury cars who were being stopped for DUI and investigative stops was 8.3%. The data indicate that black motorists are more than twice as likely as white motorists to be stopped while driving a luxury vehicle for a pretextual stop (DUI or investigative). In addition, black motorists who drive luxury vehicles in the Western region are being stopped more frequently than blacks motorists who drive luxury vehicles in the Eastern region for DUI and investigative stops. Other minority motorists are being stopped more frequently than either white motorists or black motorists. Specifically, 12.8% of DUI and investigative stops are other minority motorists. This means that other minority motorists are more than three times as likely as whites to be stopped for DUI or investigative stops while driving a luxury car.

Table 5. Crosstabulation of Race by Type of Stop Controlling for Western Region (Luxury Cars Only) (Continued)

Western Region	Race			Total
	White	Black	Other	
DUI, INV count	138	205	38	381
% within stop purpose	36.2%	53.8%	10.0%	100.0%
% within race	3.8%	8.3%	12.8%	5.9%
Other count	3,495	2,277	260	6,032
% within stop purpose	57.9%	37.7%	4.3%	100.0%
% within race	96.2%	91.7%	87.2%	94.1%
Total count	3,633	2,482	298	6,413
% within stop purpose	56.7%	38.7%	4.6%	100.0%
% within race	100.0%	100.0%	100.0%	100.0%

Western Chi-Square = 78.4; $p < 0.001$; Cramer's V = 0.111

The Chi-Square (Western region) of 78.4 falls in the critical region. Thus, we reject the null hypothesis and conclude that there is a relationship between race and type of stop controlling for region (West). Cramer's V is 0.111, which suggests a small significant relationship between race and type of stop controlling for region (West). Looking at the findings reported in Tables 4 and 5, it appears that blacks and minorities were more likely than whites to be subjected to pretextual stops in both the East and West, but at a much higher rate in the West.

Conclusions

There are a number of noteworthy findings from this study. In examining race and outcome of the stop while controlling for type of stop and region (East), we found that race was moderately and positively related to the outcome of the stop. The proportion of whites residing in the East is approximately 60.5%, but they were issued about 66.7% of the citations, which is higher than would be expected. Whites also received a greater number of warnings as well (76.6%). Blacks in the East make up about 27.6% of the population but are receiving both citations (18.0%) and warnings (17.2%) at a lower rate than would be expected. These results indicate that black motorists were actually issued fewer citations and warnings than white motorists. These findings were unexpected. According to the U.S. Census Bureau (2000) data, more blacks live in the Eastern region than in the Western region of North Carolina. Therefore, it might be expected that more black drivers on the road might translate into more traffic stops of black drivers. We think because there are more blacks living in the East than in the West, the community as a whole may harbor fewer negative stereotypes about minorities, and this would include the police who live in the community.

We found a radically different picture of traffic stops being conducted in the Western region of the state. In the West, whites make up approximately 76% of the population but were only receiving about 39.8% of the citations and 57.5% of the warnings. This means that whites in the West were less likely than those in the East to receive citations or warnings. Conversely, blacks make up approximately 15.4% of the population in the West but were receiving about 35.8% of the citations and 35.2% of the warnings. In other words, blacks in the West were more likely than those in the East to be issued both citations and warnings. The latter finding suggests that racial profiling was occurring in the West and that black motorists

were more likely than whites to be subjected to pretextual stops. The finding that blacks are more likely than whites to receive citations and warnings is consistent with the findings of other studies (Engel & Calnon, 2004; Lundman & Kaufman, 2003; Novak, 2004; Zingraff et al., 2000).

Another noteworthy finding is that other minorities in both the East and West are more likely to receive citations but less likely to receive warnings. The findings reported in the current analysis were consistent with racial profiling because the police were more likely to formally process (issue a citation) to other minorities than whites.

In examining this issue by region, and controlling for DUI and investigative (pretextual) stops, the results showed that race was moderately and positively related to region of the state. In the East, the proportion of white motorists being stopped for DUI and investigative stops was slightly higher than what was expected, while the proportion of black motorists being stopped was somewhat lower than expected. The proportion of other minority motorists being stopped for DUI and investigative stops approximated the census data. Therefore, it appears that in the East, motorists, regardless of race, were less likely to be subjected to pretextual stops by the police.

In the West, the proportion of whites being detained for DUI and investigative stops was well below that reported in the census, while the proportion of blacks being stopped for DUI and investigative stops was well above that reported in the census. Likewise, the proportion of other minorities being stopped for DUI and investigative stops was more than what was reported in the census. These findings suggest that blacks and other minorities were more likely to be subjected to pretextual stops in the West than in the East.

Taken together, the findings of this study suggest that race is likely a factor in pretextual stops. That is, generally speaking, blacks and other minorities were more likely than whites to be subjected to pretextual type stops. The results also indicate that racial profiling was occurring more in the Western region than in the Eastern region of North Carolina. The reason for this latter finding may be related to the populations living in these areas. To be more precise, because there are more blacks living in the East than in the West, police officers working in the East may be more accustomed to interacting with blacks; therefore, they are less likely to hold negative and inaccurate stereotypical views about blacks. Research suggests that police officers' demographic characteristics as well as their own childhood socialization may play key roles in understanding why racial profiling occurs (Carter & Katz-Bannister, 2000).

Our study was primarily concerned with determining whether racial profiling was occurring in North Carolina. Future research should seek to examine why blacks and other minorities are subjected to racial profiling by the police. One suggestion might be for researchers to interview police officers and administrators in an attempt to understand why racial profiling happens and what policies might be implemented to prevent or reduce its occurrence. We know that racial profiling leads blacks and other minorities to mistrust the police and, as a result, blacks and other minorities may be less likely to call the police for assistance. Police officers should enforce the law without prejudice or bias, and all citizens should feel that the police equally enforce the law regardless of race.

Endnote

¹ Confidence intervals were not calculated for the data presented in Tables 4 and 5.

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Appendix A. State-by-State Racial Profiling Laws

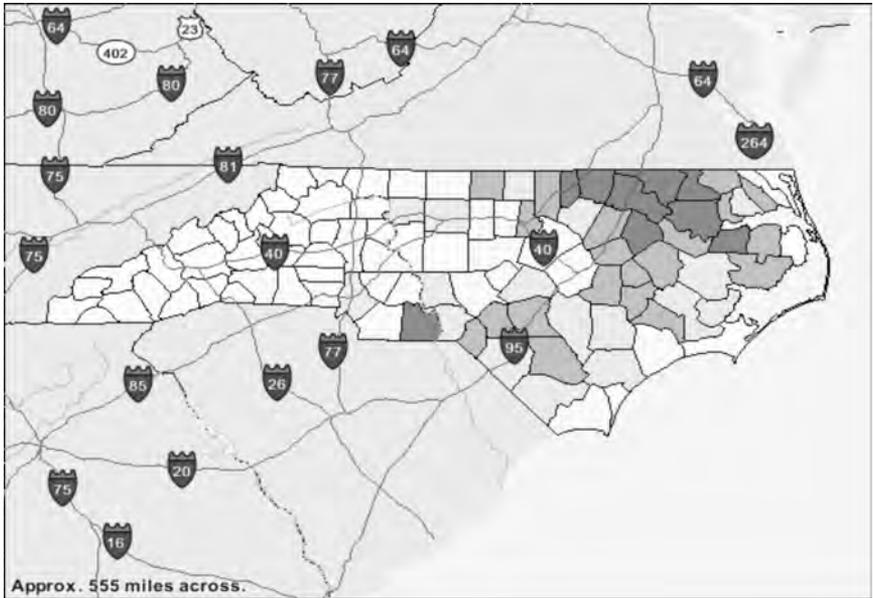
Figure 1. State-by-State Racial Profiling Laws



Source: Amnesty International USA (2009)

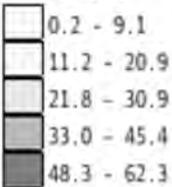
Appendix B. Population of North Carolina by County

Figure 2. Black Population of North Carolina by County

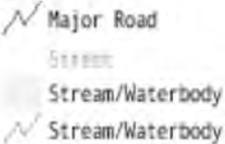


Data Classes

Percent

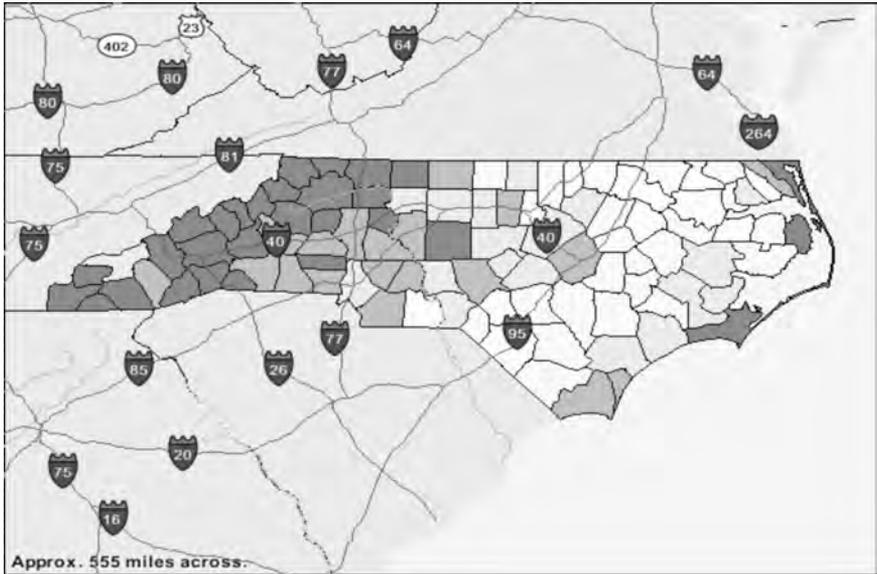


Features



Source: U.S. Census Bureau (2000)

Figure 3. White Population of North Carolina by County



Data Classes

Percent

Lightest Gray	32.8 - 49.5
Light Gray	50.9 - 63.4
Medium Gray	64.0 - 75.6
Dark Gray	76.8 - 87.1
Darkest Gray	89.1 - 98.0

Features

- Major Road
- Street
- Stream/Waterbody
- Stream/Waterbody

Source: U.S. Census Bureau (2000)

Community Policing and Critical Issues

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Introduction

The community policing era has been around for the last two decades. Since Goldstein (1987) introduced the idea, many programs have been instituted and numerous research studies have been conducted on community policing (see Alpert & Piquero, 2000). However, the concentration of most community policing literature has been on roles of top management and line officers in a community policing era. There is a lack of focus on middle-level police managers and their specific roles in the implementation of community policing.

This lack of focus on middle managers is grounded on several assumptions. First, most police departments in the United States rarely have more than 25 officers (Cole & Smith, 2005; Langworthy & Travis, 2003); therefore, there is hardly any street-level supervision going on in most departments. In most situations, community policing is a chief and street officer endeavor. Second, community policing is primarily a street-level activity. Once management lays down the policies and directives, implementation is directly administered by officers on the street. Third, leading proponents of community policing (e.g., Goldstein, Bayley, Cordner, Skogan, and Trojanowics) focus their attention in evaluating patrol-citizen interactions and rarely evaluate the roles of middle-level police managers.

This article will try to address this gap in the literature. It aims to present the roles that police managers should undertake in a community policing era. However, these proposed roles are mere suggestions due to limited evaluations in this area. At most, these suggestions will provide a framework for police departments to rethink their crime control efforts and to align their police supervision efforts.

Before middle managers can appreciate these proposed roles, it is imperative to understand the underlying principles and issues involved in community policing. Once these principles and issues are understood, middle managers will have a better realization of their roles in a community policing effort.

In the first section, the foundations for understanding the different crime control efforts that police employ to address different police problems will be discussed. Also, this section includes discussions of the essential elements of community policing. The next section presents an analytical tool to differentiate communities and identify where community policing may be the most appropriate police effort. The succeeding section will integrate the students' previous knowledge on police organization and management principles and then locate where these principles fit into the various police crime control efforts. The discussion centers on the contingency model, realizing that there are diversities in communities as well as differences in organizational environments and problems. The next section provides suggestions as to the appropriate roles of middle managers in a community policing effort. The last section discusses the emerging police issues and trends. Likewise, the section will highlight the different factors that are responsible for these policing trends.

Police Strategies and Goals

Langworthy and Travis (2007) argue that police crime control efforts can be classified primarily through the interaction of two variables: (1) crime control goals and (2) crime control strategies. They state that the police have two crime control goals. On the one hand, the police seek to control crime either by prevention activities or by enforcement activities. Prevention is a broader interpretation of the police goal. The pursuit of crime prevention pushes the police to undertake activities prior to the occurrence of a crime. Also, it is a broader role because they mandate themselves to address not only crime but also pre-crime or non-crime events. The police might be inclined to pursue solely law enforcement activities. An enforcement goal is a narrower interpretation of the police role. Police intervene only on those activities that are defined as crime; therefore, the police do not deal with events that are not interpreted as crime.

On the other hand, there is a variation in the mobilization of the police. Mobilization can emerge internally or externally (Black, 1980). The police can choose when to engage in incidents. They can choose to initiate the activity without outside constituents directing them to act. This internal decision to act is usually denoted as a *proactive stance*. Alternatively, the police can select to take action only when someone from outside the department mobilizes them. This type of strategy is generally denoted as a *reactive stance*.

The interaction of these two variables (i.e., goals and strategies) produces four typologies of police crime control efforts. First, there is a situation in which the police choose to be reactive with a view of enforcing the law. It is usually designated as a traditional type of policing. The police enforce the law once its violation is brought to their attention. Second, the police can choose to be proactive but only in so far as they perceive a violation of the law. This particular grid shows that police are doing proactive enforcement. Langworthy and Travis (2007) labeled this grid as indicative of the *team policing system* that was prevalent in the 1970s and 1980s. Police officers are usually organized as teams or given special assignments to address what they consider as a “flavor of the month” crime. Also, team policing is evident in hotspots policing. Third, the police can choose to be proactive in their strategy with the aim of preventing crime. This type involves a situation where the police, on their initiative, try to address noncriminal activities that they think will lead to crime. This effort is designated as problem-solving policing. Fourth, the police can react to the demands of forces outside their department in the hope of being able to prevent crime. Langworthy and Travis (2003) labeled it *community policing*. The table below outlines these different types of police crime control efforts.

Table 1. Classification of Police Crime Control Efforts

Crime Control Strategy	Crime Control Goal	
	Prevention	Enforcement
Proactive	Problem-oriented	Team-policing
Reactive	Community-oriented	Traditional

Source: Langworthy & Travis (2003), p. 307

From Table 1, the most evident realization is the misconception that community policing is a proactive strategy. Instead, Table 1 suggests that for community policing to exist, citizens must have inputs on social problems to address and even propose solutions to these problems (Cordner, 1997). There is also a misconception that problem solving is synonymous to community policing. Everyone must realize that community policing is not mere problem solving. In a purely problem-solving effort, the community members' inputs are not central to the implementation of problem solving. Therefore, a true community policing department is one that makes the community take a significant role in the identification of police problems, including the solution to these problems. Anything less would be indicative of a different typology.

Surveys of different departments show that most police crime control efforts being implemented are not a pure type but rather a hybrid policing effort. For example, Reisig and Parks (2004) noted deficiencies in the departments' adherence to the tenets of community policing, yet they claim to be pursuing community policing. In fact, Pelfrey (2004) found that there are no significant differences in the policing activities of both those involved with community policing and traditional police officers.

This loose coupling between pronouncement and action presents several connotations. It may be that police departments are not fully aware of the basic tenets of community policing. Thus, there is a lack of adherence to the principles. It is also possible that the non-adherence is deliberate as police officers may not be fully convinced of the appropriateness of community policing (Engel & Worden, 2003). Finally, this disjunction may just be a result of poor implementation.

This author advances a different argument. His contention is that there is really no one best way to control crime, and that community policing is not the panacea for all crime and disorder problems. Rather, effective policing involves adopting the most appropriate crime control efforts to address different problems and different demands. In this case, policing efforts should adopt a contingency approach that is appropriately matched with the nature of the police problem being addressed and the type of community being served, including the consideration of organizational factors. To understand this approach, the basic conceptualizations of police problems and communities are necessary. From these discussions, several proposals as to when and where community policing works best will be made. An identification of the appropriate roles of police managers will also be discussed.

The Police and Their Problems

The rise of community policing can be attributed to an immensely popular crime prevention theory by Wilson and Kelling (2001), the Broken Windows Theory. Their theory became the foundation for community-oriented policing. Prior to advancing the Broken Windows Theory, Wilson (1968) wrote another classic piece about the varieties of police behavior. His analysis resulted in a paradigmatic view that dealt with the varieties of police behavior (see Figure 1).

Figure 1. J. Q. Wilson’s (1968) Typologies of the Police Department: Varieties of Police Behavior

Formality	High	Watchman (high formality-low intervention)	Legalistic (high formality-high intervention)
	Low	Watchman (low formality-low intervention)	Service (high intervention-low formality)
		Low	High
		Frequency of Intervention	

However, the community policing revolution seems to promote the service style of policing and the abandonment of legalistic and watchman styles. This overemphasis on the service style is a serious theoretical flaw in community policing. The adherence to a particular style (i.e., service) ignores the reality that there are different types of problems that police must address and that there are different types of communities where the police ply their trade. Evidently, zero tolerance policing as adopted by the New York City Police Department (NYPD) is not true community policing much less a service style of policing. The NYPD adopted a legalistic style where disorder problems were redefined as crimes; thus, the NYPD’s success did not demonstrate the effectiveness of community policing. Instead, the NYPD highlighted the necessity for properly aligning police efforts with the type of problem in order to produce good results.

Wilson and Kelling’s (2001) views, however, are not solely responsible for “community policing gone wild.” Even police departments are to be blamed for this confusion about the distinction of community policing from other police efforts. Departments have adopted similar patterns in the implementation of community policing such as the use of foot patrol, community meetings, neighborhood watch, and so on. Furthermore, Cordner (1997) injected the idea that community policing departments must adopt the dimensions of community policing before they can really be labeled as community policing departments. All of this theorizing and uniformity of practice are based on the assumptions that there is a lack of variability of police problems and a unidimensional conception of communities. A choice of police crime control effort should be contingent on the type of problem. Thus, the next section will tackle the typologies of police problems and where the different police crime control efforts fit.

The Diversity of Police Problems and Police Crime Control Efforts

Cordner (1997) suggests that there are four essential components or dimensions of community policing: (1) philosophical, (2) programmatic, (3) strategic, and (4) organizational. In brief, Cordner suggests that community policing, as a department philosophy, should value citizen input and deliver more personalized service. Furthermore, he recommends that the police role should be broadened and not merely concerned about law enforcement. As a strategy, he recommends that police service should be face-to-face and have geographic focus (i.e., permanency of assignment) as well as being focused on preventing crime. For the tactical dimension, he recommends that police departments should adopt problem solving, develop partnerships, and engage the community members in positive

interactions. In the end, he suggested that the organization should reorient its structure, indoctrinate personnel to community policing, and develop a new management style.

Upon closer examination, the implementation of community policing is loosely coupled with the prescriptions advanced by Cordner (1997). First, most police departments do not implement community policing as a departmentwide philosophy. Instead, departments have taken a piecemeal implementation by simply assigning key personnel to implement community policing. Second, management structures and administration are largely unchanged. Police departments throughout the country that implemented community policing still maintained the hierarchical paramilitary structure. The most visible changes in the implementation of community policing are seen only in the departments' strategies and tactics. However, these tactics have been previously employed by the police in one way or another. Community policing only placed these tactics and strategies in focus. Thus, in several evaluations of community policing, police officers do not see anything new with what they are doing under the community-oriented policing model (de Guzman, 2004; Weisburd, Mastrofski, McNally, Greenspan, & Willis, 2003).

The different problems that police encounter may be four-fold, resulting from the interaction of two factors. These two factors are (1) frequency of exceptions within the operational environment and (2) the technology. Frequency of exceptions refers to the stability of the environment, which is determined by both crime and population. In an area plagued by a multiplicity of crime and population diversity, the frequency of exceptions is high. On the contrary, an area with low or less diverse crime and a more homogenous population can be considered low in frequency of exceptions.

Technology refers to the availability of knowledge and resources to understand the problem. This knowledge can also vary from low to high levels. When these two variables interact, four different types of problems emerge. The first type will be a simple problem for which the frequency of exceptions is low and the technology is high. Under this classification, police will not encounter different crimes or too many crimes, and they have sufficient knowledge to address these crimes. The second classification is considered a compound problem for which the frequency of exceptions may be high but technology is also high. The latter occurs when crimes committed may be serious or multiple, but knowledge is sufficient to deal with them. The third typology of police problem is one in which the environment is very stable (i.e., low frequency of exceptions), but the department does not know how to handle the crime(s) committed. In this case, the department faces a complex problem. The meta-problem is the biggest problem that police departments have to tackle. With a meta-problem, the police are confronted with a diversity of crimes, and they have no technology to address them. Thus, knowledge is important as the police can handle the more serious crime situations. Likewise, they have more control about the acquisition and application of knowledge, whereas they have no control over the emergence of crime.

The information in Figure 2 suggests that if knowledge is high and the environment is stable, the police can apply a traditional policing effort (reactive-control). There is really no need to consult with the community or do problem solving because the department already knows what to do. Consulting with constituencies or

personnel will only produce confusion in the application of solutions to address the problem. In contrast, when the department is at a loss as to how to address the problem (i.e., it has a meta-problem), and it does not consult its personnel or constituencies, the result will be a haphazard strategy. The result is a department that not only does not address the problem but also alienates its constituencies. Community policing is the best way to address a meta-problem. It pools together all the available resources from different sectors in the hope of arriving at a solution to the problem. In the end, if it does not address the problem, there is a shared burden for the failure.

Figure 2. Classification of Police Problems and Police Crime Control Efforts

High	Simple Traditional	Compound Team Policing
Low	Complex Problem Oriented Policing	Meta-Problem Community Policing
	Low	High

Frequency of Exceptions

Typologies of Communities and Policing Styles

Let us assume that two different communities have the same type of police problems. Based on the previous analytical tool, will two departments be able to apply similar crime control effort and achieve the same result? The answer may not be that straightforward. Using a similar approach to a similar problem will not produce a similar result in a different operational environment. This is a situation for which the consideration for the type of community becomes a very important consideration. Sometimes, adopting a more traditional policing approach may not be appropriate even if the problem may be considered simple. This situation makes the craft of policing highly complex. The only way the police could navigate successfully from this quagmire is to fit the style of policing to the type of community they police.

The discussions in this section will draw heavily from the chapter of a textbook written by Langworthy and Travis (2007) on the different types of communities. In this textbook, the authors argue that there are four different types of communities based on the interaction of the vertical relations and the horizontal articulation that exist within a community (see Figure 3). For brevity, Langworthy and Travis (2003) argue that communities can only exist if they can provide the five essential locality relevant functions: (1) production-distribution-consumption, (2) socialization, (3) social participation, (4) social control, and (5) mutual support. Communities have differential abilities in the provision of these locality relevant functions. Some are very dependent on the larger society, while others are very independent. Those that are high on vertical relations are dependent on the larger society, while those that are independent are low on vertical relations. Communities also differ on the level of consensus that they have. This consensus level, labeled as *horizontal articulation*, may be high or low. Communities that are dependent and have low

consensus are called *fragmented communities*. Communities that are independent but have low consensus are called *disorganized communities*. Communities that are high on both dependency and consensus are called *interdependent communities*. Lastly, communities that are independent and high on consensus are called *solidary communities*.

Crank and Caldero (2000) argue that the police have to balance which views they have to emphasize within communities. Police are often made to decide in favor of one group over the other (Lundman, 1980). The community's dependency and consensus levels have implications on the emphasis of laws and local customs in the community. Communities that are fragmented will tend to motivate the police to emphasize law over local customs. Due to lack of consensus, the best recourse for the police is the law rather than the contentious local customs. On the contrary, police will tend to emphasize local customs over laws in solidary communities. Solidary communities can even arrive at an agreement to allow the lax or non-enforcement of certain laws.

In disorganized communities, the police cannot rely on local customs because of the low level of consensus. Likewise, they cannot rely on the laws either as they are probably scarce. Thus, police are left on their own to choose the best course of action. However, due to these conflicting expectations and scarcity of laws, police have the tendency to do as little as possible. The presence of an interdependent community requires the police to balance the demands of law and local customs. In the end, Langworthy and Travis (2007) recommended that Wilson's (1968) policing style should fit the appropriate community. They suggested that the legalistic style of policing fits the fragmented communities best. The watchman style is most appropriate in disorganized communities because they can afford not to intervene frequently. Interdependent communities are best served by a professional style of policing. Finally, community policing is the best fit for solidary communities. If it is indeed true that community policing is fit only for a service style of policing, then community policing is only possible in solidary communities. Alternatively, a legalistic style is most appropriate for team policing, and it would seem to fit in a fragmented society or a disorganized community. Finally, problem solving will probably be best for communities that require a balance between law and local customs or interdependent communities. The figure below presents a summary of the relationships outlined above.

Figure 3. Typologies of Communities and the Police Styles

		A Structural Analysis of Community (Static View)		
Vertical Relations	High	I. Fragmented Community <ul style="list-style-type: none"> • Vertical relations: Dependent on larger society • Horizontal articulation: Low consensus • Law: Maximize • Local custom: Minimize • Interests: Larger society • Primary means of social control: Political-governmental • Source of police authority: Larger society • Style of policing: Legalistic 	II. Interdependent Community <ul style="list-style-type: none"> • Vertical relations: Dependent on the larger society • Horizontal articulation: High consensus • Law: Maximize • Local custom: Maximize • Interests: Larger society and locality • Primary means of social control: Both political-governmental and ethical-other • Source of police authority: Both larger society and the community • Style of policing: Mixed (professional) 	
	Low	III. Disorganized Community <ul style="list-style-type: none"> • Vertical relations: Independent of the larger society • Horizontal articulation: Low consensus • Law: Minimize • Local Custom: Minimize • Interests: None, idiosyncratic • Primary means of social control: Little social control—political-governmental • Source of police authority: Personal • Style of policing: Watchman 	IV. Solidary Community <ul style="list-style-type: none"> • Vertical relations: Independent of the larger society • Horizontal articulation: High consensus • Law: Minimize • Local custom: Maximize • Interests: Locality • Primary means of social control: Ethical-other • Source of police authority: Community • Style of policing: Service 	
		Low	Horizontal Articulation	High

Source: Langworthy & Travis (2007)

The Roles of Police Managers: Putting Things Together

This section will outline the suggested roles of the police middle managers. This section will assume that readers have a good knowledge of the principles of police organization, management, and administration. These concepts will be introduced in the discussions based on this knowledge base assumption.

Steering Role

The primary role of middle police managers is to steer the rank and file and, consequently, the department toward the most appropriate policing style and crime control efforts. They should primarily steer their subordinates to adopt the most appropriate style. However, these efforts will become inappropriate without the understanding of the different organizational factors under which they can best operate. Middle managers should see to it that there is a fit between the organizational arrangements and police problems. Middle managers are sometimes confronted with factors beyond their control such as not having the right personnel for the appropriate management style. This is a separate challenge which could not be fully discussed in this study. Figure 4 presents this suggested arrangement of the different police problems and their fit to different organizational arrangements.

Figure 4. Police Problems and the Suggested Organizational Arrangements

High	Simple Problem Ministerial Mechanistic Theory X Telling	Compound Problem Ministerial Mechanistic Theory X Selling	
Low	Complex Problem Discretionary (Watchman/Enf. Guild) Organic Theory Y Delegating	Meta-Problem Discretionary (Team) Organic Theory Y Participating	
	Low	Frequency of Exceptions	High

Source: Robert H. Langworthy’s class lecture, “Police and the Community,” University of Cincinnati

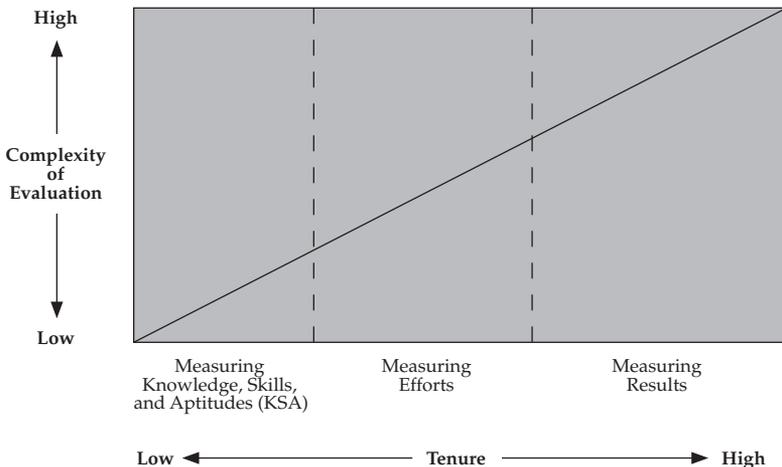
As Figure 4 suggests, simple and compound problems are best fitted to a mechanistic type of organizational structure staffed by Theory X. The problem is susceptible to ministerial or pre-set responses. The only distinction lies on the leadership styles. Faced with a simple problem, middle managers can simply tell subordinates what to do because they know how to deal with the problem effectively. Besides, the subordinates do not have enough initiative or maturity to perform the job. Selling, however, is more appropriate to address compound problems in order to strengthen the commitment of officers to an intervention even if they may not be fully aware of its implications. For complex and meta-problems, predetermined responses are not appropriate because of the dynamic nature of the problem as well as the limited knowledge as to how to address this problem. It is best to have a staff that has initiative (Theory Y) and allows some discretion or creativity to emerge. In this situation, a rigid bureaucracy militates against staff initiative. Thus, a more organic structure is required. Likewise, these types of problems also call for the solicitation of more input from different sectors and, therefore, demand a delegative or participatory style of leadership.

The other steering role of the police involves the mobilization of the community. Nolan, Conti, and McDevitt (2004) suggest that police officers should guide the community toward the most appropriate policing response to the problem. The police manager must not lose focus as to what is the most appropriate response even in the presence of tremendous community pressure. Instead, the police should convince the community that the department’s way is the best way. They should argue that failure to steer the community toward the proper direction can make a police crime control effort malfunction (Nolan et al., 2004, p. 103). In this situation, the community-organizing role of the police should be more aggressively pushed. Nolan et al. added that the community’s level of dependence or independence to address crime problems should be detected accurately by the police for them to be able to apply the most appropriate policing response. In their analysis, they prescribe a more legalistic role in the presence of community dependency on the police and a tendency toward a service or community policing role in the presence of an interdependent community. This analysis is similar to Langworthy and Travis’s (2003) structural analysis of the community and the fit of the different policing roles. Thus, police managers should be able to detect these dynamic characteristics of communities and adjust their policing styles accordingly.

Guidance Role

In the words of Engel and Worden (2003), “field supervisors represent the most proximate and perhaps the most potent bureaucratic force” (p. 133). They give the officers directions (Famega, Frank, & Mazerolle, 2005) and instructions (Muir, 1977). They also manage the distribution of rewards and punishments in the department (Van Maanen, 1983). The available research on the exercise of the supervisor’s role in community policing suggests that field supervisors rarely provide directions to their subordinates. In their study, Famega et al. (2005) found that supervisors only provide directions to their subordinates 6% of the time in the entire eight-hour shift. Most of the time, officers have a substantial portion of their shifts uncommitted to any activity; this time, they argue, could best be used for community policing or problem solving. This lack of exercise of the directive role for field supervisors is critical in the implementation of community policing. Engel and Worden (2003) found that patrol officers’ perceptions of their supervisors’ expectations of problem solving influence their own performance of problem-solving activities. Some words of caution are necessary relative to the power to influence officers’ behaviors, however. Supervisors must be able to align their expectations with the appropriate evaluation of their subordinates. Oettmeir and Wycoff (2000) suggest that departments must use an appropriate tool and approach toward the evaluation of police officers in a community policing endeavor. Oettmeir and Wycoff propose that “over the course of a career, assessment [should move] from an initial focus on ability to a focus on effort and, finally, to a focus on judgment and the results of an officer’s efforts” (p. 384) (see Figure 5).

Figure 5. Oettmeir and Wycoff’s (2000) Performance Evaluation System



Source: Oettmeir & Wycoff (2000), p. 385

Thus, traditional performance measurements such as punctuality; accuracy; and completeness of reports, arrests, and clearance rates are appropriate when police officers are fairly new both in the department and in implementing community

policing. As officers mature in the department, they should be held to higher standards such as the efforts they put in for community policing as well as the results. Unfortunately, most police departments implementing community policing never get past the traditional measures (Oettmeir & Wycoff, 2000). Hence, the police tend to have a loose coupling of the philosophy and implementation of community policing (Maguire & Katz, 2002).

However, supervisors must be aware that the rewards and punishment in policing are very limited both in array and effects. Thus, an exchange relationship that is dominant in a department where officers are rewarded based on performance is bound to have limited effects on changing officer behaviors to adhere to community policing. Engel and Worden (2003) found in their study of supervisor influence on patrol officer behavior that most supervisors do not adhere to the ideals of community-oriented policing. Although this fact did not affect officer behavior in favor of problem solving, the effect of behavioral changes is only due to the mistaken belief by street officers that supervisors adhere to these community policing values. Thus, Engel and Worden advise that more than rendering lip service to community policing, supervisors should provide inspiration for patrol officers. This ability to inspire was called *transformational leadership* through which supervisors should serve as role models. Otherwise, the adherence to ideals to community policing will become a fad, which will be swept away easily by another wave of policing fashion or the inconsistent adherence to community-oriented policing policies.

Intermediary Role

The final role that supervisors should envision themselves doing is the intermediary role. First, they should be an intermediary between the top management and the rank and file. Oftentimes, these two groups of policing have different, clashing cultures (Reuss-Ianni, 1983). Reuss-Ianni found that the rank and file tended to show contempt for management due to the perception that management has no real sense of policing on the ground. This cultural division is where the middle managers can come in to bridge this gap. Their role should be to convince the rank and file that community policing makes sense (Maguire & Katz, 2002) and that they represent both the management and field officers' concerns. However, this is easier said than done. Van Maanen (1984) found in his research of the cultures of sergeants that these middle managers tend to lean toward one or the other of these cultures rather than merging the two.

Emerging Issues with Policing

Two very important articles came out predicting the future trends of policing. The first article was written by Bayley and Shearing (2001). Bayley and Shearing suggest that policing has evolved from being a purely public endeavor to becoming a private endeavor. They argue that, previously, the definition of order as well as who and how to maintain that order was the sole responsibility of the state. They identified those who define order as *auspices*, while those responsible for the provision of the services to maintain order are called *providers*. The interaction of these factors gives rise to different configurations as to who defines order and who provides services. Auspices can be either public or private. Providers can,

likewise, be classified as either public or private. Figure 6 describes these different types of auspice-provider arrangements.

Figure 6. Different Types of Police Auspices and Provider Models

Auspices	Private	Augmentation (private auspice-public provider)	Responsibilization (private auspice-private provider)
	Public	Traditional (public auspice-private provider)	Commodification (public auspice-private provider)
		Public	Private

Figure 6 shows that the traditional model is the public auspice-public provider model. However, governments recently have allowed both the private definition of order as well as the mobilization of either the public or private providers to attain such order. Furthermore, governments seem to tolerate a private definition of order as well the employment of private providers to maintain that specific definition of order. This arrangement has slowly eroded away the monopoly by governments of the use of coercive force.

This trend toward a private definition of safety as well as the reliance on private policing to implement this definition raises several contentious issues. First, it engenders an inequitable provision of safety. Because it commodifies the provision of public safety, it creates tensions for the urban class struggle that predominates in American society (Duffee, Fluellen, & Roscoe, 2000). The arrangement does not only increase social tension, but it also engenders the emergence of competing notions of social order with the police caught in the middle. Crank and Caldero (2000) suggest that the proper role of the police should be as negotiators of that order. Unfortunately, when police services are commodified, this negotiator role is compromised in favor of those who pay for the services of the providers.

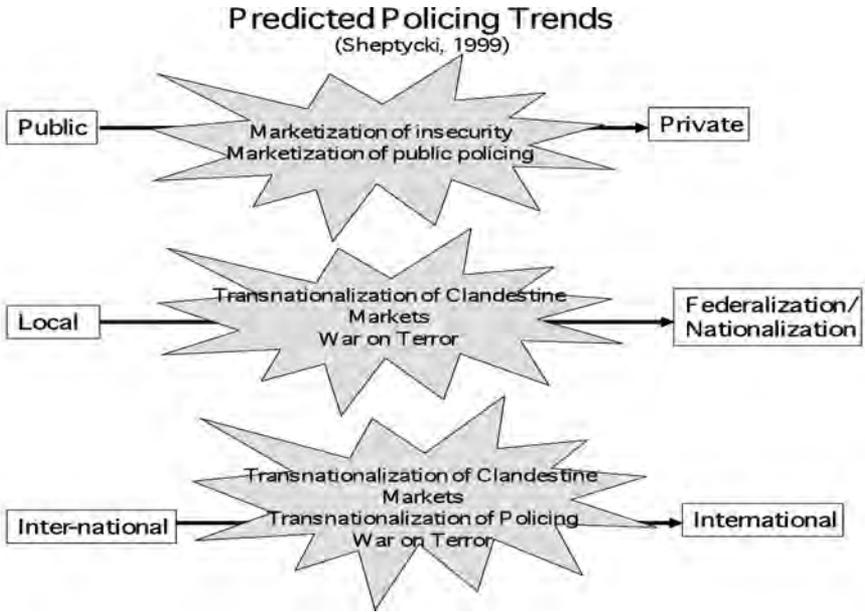
In addition to these dilemmas, public police officers have to contend with globalization and distinctiveness. Globalization opens up the police environment to situations wherein the police have to deal with different cultures. Globalization is a force that the police have to contend with; it is not something they can manipulate. The heterogeneity of the population will certainly make the problems that the police encounter more than simple. Furthermore, the police not only have to deal with the current wave of globalization but also with the inclinations to promote the distinctiveness of different cultures (Crank & Caldero, 2000). The United States is no longer a melting pot where everyone is assimilated into the American way of life. Instead, American society has adopted a more tolerant attitude toward different cultures. This diversity has the potential to create tension due to the inability of the community to attain consensus (Langworthy & Travis, 2003). The public police as well as the private police are caught in the middle of this cultural distinctiveness atmosphere.

The different arrangements also increase the opportunities of conflict of interests for public officers. Bayley and Shearing (2001) present the notion that public and private police have different mentalities. This means that private police are not so much bound by some of the stringent constitutional prohibitions enshrined in the Bill of Rights that public providers are required to rigorously observe. This situation creates a working personality problem for public officers who moonlight for a private auspice. This dual role for public officers becomes highly problematic when the private auspice they serve violates a public law. This situation certainly exposes the public officer to the slippery slope of corruption (Wilson, 1968).

Aside from this scenario painted by Bayley and Shearing (2001), Sheptycki (1999) presented a broader trend toward which policing in general is headed. First, he states that police provisions tend to move from being solely public to more private. This prediction is similar to Bayley and Shearing's (2001) predictions. In fact, it is now a reality in the United States. The number of private police is more than twice that of the public police, and it will continue to increase (Cole & Smith, 2005). Second, there might be a shift on locus of policing from primarily local to a predominantly centralized or federalized administration. Third, he sees policing as more of an international endeavor rather than as a sovereign endeavor. He sees the trend moving from being inter-national (i.e., geographical confinement of operations within a nation) to becoming international.

Sheptycki (1999) identifies three factors for why policing is moving toward these trends. This author adds another factor, the War on Terror, as responsible for some of these trends. He states that the ongoing marketization of insecurity and the marketization of public policing contribute toward these trends. People are made to believe that they are not really safe. Citizens are subliminally induced to think they need to "buy" their safety. Aside from the material, structural, or personal defenses, the public is further conditioned to seek human services for personal protection. Thus, they hire someone who they think can keep them and their properties safe from harm. Toward this conditioning, the public police have also started to market their services by providing additional patrol in business or private events. This commodification of public policing is evident in some jurisdictions where the public police charge fees for traditionally free services such as jumping and unlocking vehicles, watching peoples' houses when they go on vacation, or deploying more patrol officers during sports events.

Figure 7. Policing Trends and the Corresponding Factors Responsible for These Trends



The other factors for these policing trends are the emerging transnationalization of clandestine markets and the transnationalization of policing. This means that crime has gone beyond sovereign boundaries. For example, drugs and human smuggling have become international. Recently, other crimes such as intellectual property infringements, money laundering, and cybercrimes are no longer geographically bound. These factors necessitate the formation of international law enforcement cooperation. Consequently, Interpol has become more prominent throughout the years. In Europe, even the problem of hooliganism at football games has precipitated the emergence of an international cooperation to detect professional hooligans. Sheptycki (1999) identified these two factors as primarily responsible for the federalization or centralization as well as the internationalization of policing.

However, Sheptycki (1999) did not predict the emergence of terrorism as a potent factor in the reorganization of police provision. In the aftermath of the attack on September 11, 2001, the U.S. federal government expanded its role in law enforcement with the creation of the Department of Homeland Security and, in some instances, started federalizing some transportation and port law enforcement services. This current war on terrorism has also intensified the need for international cooperation as terrorists are crossing international boundaries in the perpetration of their terrorist acts. This new safety concern questions the perpetuation of community policing as some of the basic tenets of community policing appear to be incompatible with the new law enforcement focus on terrorism (see de Guzman, 2002).

Conclusions and Implications

Almost 40 years ago, Wilson (1968) said that policing is a craft. He made this claim based on his observation that knowledge and practices of policing cannot be accumulated to be applied to similar situations. Indeed, the practice of policing is a dynamic endeavor that must meet certain exigencies (Bittner, 1970). The discussions in this study underscore this reality that policing is a craft. Community policing should not be considered as the magic bullet that will solve all types of problems regarding law and order. Indeed, middle police managers themselves see that the problem in the successful implementation of community policing is not the police but the community itself when it refuses to sustain its interest in the co-production of safety (Vito, Walsh, & Kunselman, 2005).

Police problems are dynamic and so are the organizational and environmental contexts in which the police operate. Instead of pushing the police to blindly implement community policing, we should all be cheering them on to critically examine the wide array of police practices and to implement the most effective means to address society's problems. The sooner the police are able to comprehend the dynamisms of crime, organizations, and communities, the more they will become responsive to the needs of society.

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Introduction

Over the course of the last 30 years, the philosophy of community policing has become the predominant, if not the dominant, model that has influenced law enforcement in the United States. This article seeks to expand understanding of interaction between law enforcement agencies and the communities they serve by exploring the use of Citizen Police Academies as an effective technique to engage the public in relationship building that is essential to implementation of the community policing philosophy. *Community policing* is a “philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime” (Community Oriented Policing Services [COPS], 2010). In this approach, law enforcement agencies attempt to engage the community in active partnerships (Rosenbaum, 1988; Rosenbaum & Lurigio, 1994; Skogan, 1990). The seemingly simplistic nature of community policing has given rise to a variety of discussions as to its implementation.

The research on community policing has pointed out some issues that need to be addressed in the future. The research by Rosenbaum and Lurigio (1994) stressed that to create a cooperative partnership with the community, the police need a better understanding of the social forces that influence citizen participation in community life. The majority of law enforcement agencies that implement community policing feel that after the community residents and groups are invited to participate in community policing, everyone will unhesitatingly come forth and get involved. Over the years, police-community relations programs, which are designed to improve public perceptions of police, have been found to be relatively ineffective (Thurman & Reisig, 1996). Arguments predominantly have stated that programs aimed at enhancing community-police relations have been ineffective because they have “failed to consider the larger context of which attitudes toward the police constitute only a part” (Albrecht & Green, 1977, p. 70). The natural conclusion then is that community policing programs should be designed to empower citizens to identify and work toward community goals. To facilitate this key aspect of community policing, it is necessary for law enforcement agencies to accumulate empirical research findings regarding community relations. Based on those findings, policies can be derived so law enforcement agencies can become more effective agents for the communities they serve (Kessler & Duncan, 1996).

Zhao, Simon, and Thurman (1994) felt that before any relationship with the community can develop, law enforcement agencies must first develop a mission outside of its organizational boundaries and within full public view, indicating

its community orientation. This external organizational dimension of change is what leads to increased community collaboration. For the public, the actions fostered by the philosophy of community policing cannot just seemingly resolve themselves out of thin air. It is necessary to be mindful that in the eyes of average citizens, the community policing philosophy represents a fundamental change in their perception of the delivery of police services. For most citizens, it may be unexpected that the public is asked by local government to take a more active role in identifying and helping to resolve crime-related problems and that this may give rise to, if not distrust, a measure of reservation (Thurman & Reisig, 1996). It may be that the community has a desire to see law enforcement agencies as meaningful participants in actively building their community. It may also be that for community policing to be effective, the public has to fundamentally believe that the police no longer see residents only as potential crime victims and witnesses to criminal activities, but, rather, that they covet their participation as allies in solving old crimes and preventing the occurrence of new ones (Thurman & Reisig, 1996).

Overall, research has found that successful community development and community policing have much in common (Rohe, Adams, & Arcury, 2001). They share the same overall goal of improving the quality of life in communities throughout a city, particularly low-income communities. Moreover, they both try to accomplish this by involving local residents in community improvement efforts. It is clear that by working together, both those fostering community development and community policing can be more effective in accomplishing their closely related missions (Rohe et al., 2001).

Additional critical discussions regarding the successful implementation of community policing abound. These have been discussed at length elsewhere and are not the intellectual center of the present discussion. Of interest for the present research is how the central facet of the community policing model—the creation of partnerships between law enforcement agencies and the public—works to deal more effectively with crime and its associated issues. One development, Citizen Police Academies (CPAs), may be a method of conveying this reorientation by law enforcement of their mission to be more inclusive of the public. CPAs have been likened to an abbreviated “police academy style” training conducted for citizens. This instruction largely focuses on educating the public on the multiple facets of policing and revealing the nature of the daily grind of the law enforcement profession (Clark, 1993). In a broader context, the goals of CPAs are to enhance community relations and foster communications. The CPA provides a means to better inform the community of the nature, the function, and the specific role law enforcement can and does play in the prevention of and response to crime.

The Nature of Citizen Police Academies (CPAs)

As stated previously, CPAs have been developed to provide a mechanism for community education through which understanding between citizens and police may be improved (Cohn, 1996). Citizens are taught about police operations, policies, and procedures, and police-citizen communication is facilitated. Peverly and Phillips (1993) found such academies are becoming increasingly recognized as one of the most important tactics of the public education and community partnership objectives of community policing. The CPAs are not producing citizen police or reserve officers; instead, they are increasing better understanding

between citizens and police through education (Ferguson, 1985). The desire is for the academy to foster a group of community residents who are well-informed and knowledgeable about police procedures and who are in a position to influence public opinion toward the police. In return, the police department interacts with the participants to develop a better understanding of citizens' concerns and their perceptions of the police (Cohn, 1996).

CPAs were first developed in England by the Devon and Cornwall Constabulary in Middlemoor, Exeter. Originally titled Police Night School, it was established in 1977. The Police Night School "course" met once a week for ten weeks and was run completely by volunteer police personnel. The course was extremely popular and motivated other British police departments to design and organize similar school courses (Cohn, 1996). The concept of CPAs did not immediately jump across the "pond," and it was not until 1985 that the Orlando Police Department organized the first CPA in the United States. The Orlando program was modeled in the image of the original Devon and Cornwall Constabulary Police Night School. It was ten weeks long, included an optional unit on firearm safety and use, and afforded participants the opportunity to experience a ride-along with officers of the department (Cohn, 1996). Other law enforcement agencies in the United States followed suit and developed their own CPAs due to the success experienced by the Orlando Police Department's program. Other agencies expanded their courses in both length and training by including mandatory firearm use and safety, and police driving techniques. They even held formal graduation ceremonies at the completion of the course (Cohn, 1996). On average, a CPA in the United States runs about ten weeks, and while the curriculum varies by agency, there appears to be some overall constants in them. Common topics include an overview of departmental organization, police selection and training, patrol procedures, law, vice and narcotics, domestic violence, police use of force, field operations, traffic stops, police stress, and crime prevention (Cohn, 1996).

There is also considerable variation in how individual law enforcement agencies conduct their academies. Some agencies have chosen to constrain the majority of the experiences for CPA participants to the classroom, using traditional lecture and discussion, while others have adopted a more experiential learning-based curriculum, allowing citizen-cadets to experience first-hand how to implement police procedure in simulated safe environments. Some CPAs provide simulated learning experiences that allow citizen-cadets to conduct mock vehicle stops, domestic violence role plays, baton training, shoot-do not shoot exercises, and an optional tour of dispatching like the CPA in Farmington, Connecticut (Cohn, 1996).

It would seem that some law enforcement agencies might focus on only the dramatic and interesting aspects of policing to the detriment of public education. Bumphus, Gaines, and Blakely (2001) found that a high percentage (19%) of CPAs concentrate on tactical content (i.e., weapons and SWAT training), pushing a misinformed belief that this is what "true" police work consists of on a regular basis. Whether police administrators are intentionally allowing people to believe that police work actually occurs how television shows portray it or are simply attempting to highlight the more glamorous and less common aspects of policing in an attempt to generate greater interest in their programs is up for conjecture. Regardless of motivation, they are allowing their CPA participants to believe the

stereotypes through this reinforcement (Bumphus et al., 1999). It only stands to reason that emphasizing the excitement of police work to the virtual exclusion of the more routine or mundane tasks that are common in day-to-day policing may produce confusion about the philosophy of community policing.

As programs such as CPAs with their associated potential benefits become more appealing to law enforcement, their attraction is also tempered by the fiscal concerns that are so prominent in the minds of agency administrators. In a regional survey of CPAs located in Texas, it was found that the CPAs do not appear to be a large consumer of police department personnel or resources (Hilson, 1994). A majority of the officers who are participating in the programs are reimbursed through compensatory time or overtime. As to whether the availability of these overtime funds or the ability to give compensatory time will evaporate as fiscal situations for law enforcement agencies become more constrained is not yet known. While Enns (1995) found that CPAs in Texas vary greatly in cost, with the budgets ranging from \$200 to \$7,000 depending on the length and organization of the CPA, Cohn (1996) determined that a number of CPAs in Texas do not spend any departmental funds but charge a tuition fee to participate. While seemingly effective in providing self-sufficiency for these few Texas CPAs, the use of tuition may negatively impact participation in socioeconomically depressed areas.

Several advantages of a CPA have been outlined in past research (Greenberg, 1991). Citizens who have participated in a CPA program are better prepared to cope with criminal incidents, are more willing to report crime, and realize the need to testify when they have observed a crime. The participants also seem to have a greater understanding of the realities of police work, which may help reduce complaints about police work. Finally, CPA graduates have a tendency to become more involved with crime prevention activities, more likely to actively work toward developing new ways to prevent crime, and help to educate others in their community. A number of researchers believe that CPAs may be further improved to have even stronger benefits to the community and the agencies hosting them (Greenberg, 1991).

West (1996) also discovered benefits of CPAs through his research. West felt the greatest benefit is the fact that the individuals who graduated from the CPA had a better understanding of police operations, specifically the constraints and limitations that the officers and departments face. West believed another benefit was that the individuals teaching the CPA, mainly the department's chief executives, obtain a better understanding of the concerns people may have about the quality and effectiveness of the agency.

Previous research has not always been uniformly positive regarding the benefits of CPAs as an effective implementation of community policing. Bumphus et al. (1999) conducted a study of CPAs in an attempt to understand the differences in program goals, participant acceptance, selection criteria, and curriculum content. Their research analyzed the above-mentioned areas in an attempt to better illuminate the role that CPAs can play in forwarding the community policing philosophy. What was discovered was that it is not clear as to whether or not CPAs are actually effective in forwarding community policing. Findings showed that citizens who were supporters of the police appeared to make up the majority of participants attracted to CPAs. Schafer and Bonello (2001) also discovered that the program

may be successful due to the fact that the majority of the participants entered the academy with a positive view toward the police. The CPA participants tended to already be involved with volunteering their time to crime prevention and community safety initiatives. It is likely that they still would have held a positive view toward the police agency even if they had not attended the CPA.

Younger and minority citizens seem to be the most vocal critics of police behavior and performance, and these groups' participation in CPAs is uniformly low. In addition, to compound the low participation issues, the advertising methods utilized to attract participants were not conducive to soliciting participation from these younger and minority citizens. Most confounding was Bumphus et al.'s (1999) findings that most of the CPAs utilized a criminal background check. The use of a criminal background check to bar participation tends to have a disproportionately negative impact on younger and minority citizens. Yet it is these younger and minority citizens, often being the most critical of police, who may be impacted positively by participation in a CPA program. Schafer and Bonello (2001) stressed that CPAs should not exclude prospective participants based on their criminal history as they could bring important perspectives to the CPAs. Schafer and Bonello believed that for CPAs to work, agencies must look for all segments of their population, specifically the segments they had struggles with in the past.

One piece of research analyzing a CPA's ability to produce a change in attitude was conducted by Schafer and Bonello (2001) when they attempted to study the effects CPAs had on their graduates. Schafer and Bonello first measured the impact that the graduates' academy experiences may have had on their perceptions and judgments of the sponsoring agency. Schafer and Bonello's research was novel because their primary unit of analysis was the citizen participant rather than the program itself—a methodology that directed the current research. Schafer and Bonello concluded that CPAs do seem to contribute to improved community understanding and evaluation of law enforcement agencies. As intended by the community policing-based programming (i.e., CPAs), those citizens who participated gained an understanding of the workings of the department and were more critical of media reports about the police. Additionally, they told others about their academy experience.

Through the research conducted over the years, there is evidence that CPAs have the potential for accomplishing a number of goals fundamental to a community policing perspective. Several areas need further research regarding how beneficial CPAs are and how they can be strengthened. One of the areas that must be strengthened is making research more generalizable to other law enforcement agencies. The majority of research on CPAs tends to analyze a singular CPA program, limiting the research's usefulness (Cohn, 1996; Schafer & Bonello, 2001). Prior research also commonly utilized small samples from which to build their research. Our research analyzed three departments which each had a large sample size with the hope that other agencies would compare themselves and draw from our findings.

In a desire to accumulate empirical research findings regarding community relations, a handful of CPAs have taken to polling participants on various issues at the beginning of their CPA course and again at its conclusion (Cohn, 1996). The East Syracuse Police Department in New York conducted an evaluation of their

CPA participants to determine whether their attitudes changed toward the police (Peverly & Phillips, 1993). An exemplary attempt at evaluation can be seen in the actions of the East Syracuse Police Department of incorporating four themes into the polling of their CPA participants: (1) the development of an increased understanding of and appreciation for the intelligence, versatility, and professionalism of the “average” police officer; (2) an increased appreciation and support for continued training and formal education for police officers; (3) a decided willingness to be less influenced by the prejudices of others in conversations related to the police; and (4) an increased sense of individual responsibility to work with the police in matters related to order maintenance and crime prevention. These themes reflect the effect of previous research findings on CPAs in the development of the East Syracuse CPA program (Ennis, 1995; Hilson, 1994). Of the few studies conducted that analyzed CPAs, most did not utilize a pretest/posttest design. Most of the CPAs did not conduct any evaluation of their program let alone utilize empirical data from the onset.

Methods

This study measured the impact that participating and graduating from a CPA, as a form of community policing, has on the graduates’ attitudes toward law enforcement agencies. The focus of the study is to see if by attending a CPA, the participants’ attitudes changed toward the police and how their attitudes changed. Although they may already have had a positive outlook toward the police at the start of the academy, at the end of it, they should have a more positive outlook toward police given the education they received.

Much of Erie County’s policing services are delegated to the various law enforcement agencies that operate in the cities, towns, and villages of the county. Our research analyzed three police agencies that currently employ a CPA as part of their community policing initiatives. They are the Town of Tonawanda Police Department, the Erie County Sheriff’s Office, and the Cheektowaga Police Department. Erie County also contains two other CPA programs which are located in the Town of Amherst and the Village of Kenmore. Initially, the current research attempted to encompass all five agencies in Erie County but was only able to include three due to the unwillingness of the Town of Amherst and Village of Kenmore to release the contact information of their alumni. Of the three agencies examined, Cheektowaga started its program first in September 1996. The Town of Tonawanda’s program started a year later in 1997, and the Erie County Sheriff’s Office started its program in 2001. Each department runs a program twice a year, in the spring and fall. The number of weeks the program lasts varies from ten to 13 weeks with an average of 15 participants per class. These departments represent a majority of the citizens who make up Western New York, which is an area that has never had research conducted on CPAs. The closest research was conducted by Peverly and Phillips (1993), who analyzed the CPA in the East Syracuse Police Department.

Geographically, Erie County, New York, is 1,056 square miles and is comprised of three cities, 25 towns, 16 villages, and two Native American Indian Reservations. Based on the 2000 U.S. Census, the county population is 950,265. The 2000 census demographics showed that the population within the county is 83.1% white, 13.6% black, and 3.3% other. Of the law enforcement agencies participating in

this research, the Erie County Sheriff's Office, whose jurisdiction encompasses the entire county, was the largest agency with a total staff of 1,080 employees, of which 833 are sworn law enforcement agents. The town of Cheektowaga's total population was 94,019. The 2000 census data showed that the population within the town of Cheektowaga is 94.94% white, 2.93% black, and 2.13% other. The smallest and final jurisdiction that conducted a CPA program is the town of Tonawanda that had a population of 61,729. The 2000 census showed the town of Tonawanda is 95.74% white, 1.52% black, and 2.74% other.

Our target population was those citizens who had attended CPA programs within Erie County. A total population of approximately 1,100 citizens attended a CPA sponsored by the five law enforcement agencies from 1996 through 2004. Since we were only able to obtain the sampling list of three of the five departments, our target population decreased to 600. Packets were mailed to all of the 600 graduates of the Erie County Sheriff's Office, Town of Tonawanda, and Cheektowaga CPAs in May 2004. Only a single mailing was conducted. The survey instrument mailed to CPA graduates utilized both closed and open-ended questions. The packets mailed out consisted of the survey instrument, a pre-stamped return envelope, and a cover letter explaining the purpose of the study. The cover letter ensured the respondents that all responses would be kept confidential and was written in a manner to encourage participation. The packets were mailed to the 600 identified CPA participants, but five moved with an unknown address and five were deceased, so the actual sample decreased to 590. Of the 590 packets sent to CPA program participants, 222 were completed and returned in a useable format. This yielded a response rate of 37.6%. Although the response rate was low, the overall number of surveys returned is considerably larger than previous research samples collected. Of the past research, the largest sample size was 50.

The survey consisted of a posttest only to the sample group to determine if the CPA had an effect on citizen-participants' views and feelings toward their local law enforcement agencies. None of the three CPAs has utilized any evaluation of their programs to date, so this was the first effort to do any type of evaluation. The use of only a posttest does have acknowledged methodological drawbacks. Obviously, it will not give us an idea of how the sample felt about their respective law enforcement agencies before they participated in the CPA. Although this presents a hurdle, it is one that can be overcome, and it should still be possible to measure a change in attitude. To this end, the survey instrument also posed questions to the sample about their involvement in community policing prior to attending the CPA and whether or not they are now involved after finishing the CPA.

The researchers in the present study analyzed three CPAs and, unlike the previous studies such as the one conducted by Schafer and Bonello (2001), who only assessed a single CPA, it is felt this was a fair representation of CPAs in the Western New York area. The study results are believed to be generalizable to all CPAs in Erie County, New York. The other two CPAs which declined to participate in the study were virtually identical in all respects to the Town of Cheektowaga's CPA. This is not accidental as the individual that designed the Town of Cheektowaga's CPA was instrumental in the development of the other Erie County law enforcement agencies' CPA programs. Despite the present study's retrospective nature, which has limitations, the unit of analysis was the citizen participant rather than the CPA

itself, which was also the basis for Schafer and Bonello's (2001) study. This allowed observations to be made about the effect of the CPA programs on the participants in the same vein as the study conducted by Schafer and Bonello.

We agree, as do Schafer and Bonello (2001), that it is important to assess CPAs to determine what, if anything, they achieve. It is necessary that both academics and law enforcement administrators be aware of the efficacy of utilizing CPA programs as a tool to contribute to accomplishing community policing goals. A secondary concern that has great importance as well is if, in this time of fiscal crisis, it is necessary to determine if CPAs pose a worthwhile investment of both the time and resources of cash-strapped law enforcement agencies. Law enforcement agencies and their administrators armed with this knowledge can better employ CPA programs in an appropriate fashion in light of research findings. Incorporating some form of evaluation is one step that all CPAs should consider in order to gain a better understanding of their impacts, if any. A pretest and posttest evaluation would be most beneficial.

Findings

The researchers conducted the study with the goal of determining if a CPA affects citizen-participants' views and feelings toward their local law enforcement agency. Foremost in our minds were the questions "Did the CPA change their attitude toward the police?" "Did the CPA change their attitude about the actual job the police officers have to carry out on a daily basis?" and "Were there any other areas that the sample may have had a change in after attending the CPA?" Initially, the demographics of the participants were compared for the three CPAs (Town of Tonawanda, the Town of Cheektowaga, and the Erie County Sheriff's Office). Approximately 47% of the participants responding attended Tonawanda's CPA, 42% attended Cheektowaga's CPA, and 11% attended the Erie County Sheriff's Office CPA.¹

When reviewing the combined populations of all three CPAs, 58% of the participants were female and 42% were male. Although slightly less than 50% of the participants responded to our survey question regarding race, of the 44% who did respond, we found that 98% identified themselves as white, and the remaining identified themselves as black. In regards to educational attainment, 100% of the participants had obtained at least a high school level education and many further identified their education level as having attended some college or having completed a bachelor's degree. Thirty percent identified themselves as single, and 77% stated that they were currently married or were now divorced, widowed, or separated. Ninety-seven percent stated that they currently were gainfully employed or that they were retired after having been gainfully employed. Eighty-four percent of the participants also identified themselves as homeowners within their respective communities. When reviewing the ages of the responding participants, the average age skewed toward older participants at 52 years of age. Additionally, almost half (47%) of the participants knew an individual who was employed within the field of criminal justice, with 39% knowing an individual who was actively employed in law enforcement. An assumption that can be drawn from this high number of participants who knew an individual in the field of criminal justice may predispose those CPA participants to a more positive attitude toward the profession and law enforcement agencies in general.

When reviewing the participants' responses, most stated that they had an overall positive impression of the CPA they attended. When taking a more critical view of participants' responses, 11% answered it was a positive experience, while 89% answered it was a very positive experience. This is an encouraging finding for the law enforcement agencies involved with the study. Although this study was comprised only of a posttest survey, many of the questions posed to the survey respondents pertained to the participants' general attitudes toward the police department, the media, and law enforcement as a profession prior to attending their respective CPAs. Only 7% of the participants responded that they had a negative view of their local law enforcement agency, while 69% stated they held a positive view, and a further 24% held a very positive view.

After attending the CPA, an overwhelming 72% viewed their local law enforcement agency more positively. The overall findings support the hypothesis that the participants' views were affected by their participation in their respective CPAs. When reviewing participants' community participation prior to attending a CPA, 29% of the participants volunteered at events sponsored by their local law enforcement agency. Subsequent to attendance at a CPA program, 44% of respondents stated that they were more willing to volunteer at an event sponsored by their local law enforcement agency than they had previously been. On a more general level, 77% of the participants reported that their views of their local law enforcement agency had changed. Eighty-five percent of the participants reported that their awareness of crime and safety issues changed after their CPA attendance, and 84% of the participants reported that their awareness of what consisted of the daily activities of law enforcement changed as well. With consideration to the above changes in the participants' views, 84% of the CPA participants also indicated that their views regarding law enforcement's efforts toward solving problems had also been altered. The participants' views toward the manner in which the local media outlets report about their local law enforcement agency changed the least.

Since attending the CPA, 97% of the participants stated that they would be more likely to work cooperatively with the local law enforcement agency to solve problems. Although 92% of participants of the various CPAs held a positive or very positive attitude toward law enforcement prior to their CPA experience, it did appear that their views changed for the better in several areas following attendance of the CPA. Two of the three surveyed CPAs have formed alumni groups. These alumni groups routinely have functions during the holiday seasons, actively participate in their local CPA after graduation, and have a high level of participation in other community policing practices such as the neighborhood watch program. While only 40% of the CPA participants surveyed are actively involved with their alumni group, this still represents a considerable percentage when taking into account participants' family and work obligations.

Overwhelmingly, the participants surveyed were satisfied with their CPA experience. No participant gave their CPA experience a negative or very negative rating. The Town of Tonawanda CPA had the highest rate of very positive responses from their alumni. Over 93% of their alumni rated their experience as very positive and 7% positive. The Town of Cheektowaga had an 86% response rate of very positive and 14% positive from their alumni, and the Erie County Sheriff's Office received a response rate of 79% very positive and 21% positive, respectively.

Conclusion

In Erie County, New York, it appears that CPAs have and are becoming an integral tool in establishing links between law enforcement and the community. This study was the first to look at whether the participants' views altered after they attended one of the above CPAs in Erie County. As the research demonstrated, overall, the participants' views did change in areas that are important to the local law enforcement agencies involved, but the same problems occurred in our study as did in previous studies by Bumphus et al. (2001) and Schafer and Bonello (2001). It was clear from the present and previous findings that the CPAs seem to primarily attract participants who are already disposed toward having a positive view of law enforcement. While they already held a positive perception of law enforcement, the participants did gain more in-depth knowledge in how their local law enforcement agency operates on a daily basis and its mission. Through this greater understanding of law enforcement, the participants identified themselves as even stronger supporters than they had been prior to CPA attendance. This is encouraging for the relationship between law enforcement agencies and their communities, but a question remains regarding the CPAs' impact on the larger community. The answer is while the CPA experience seems to improve a participant's perception of law enforcement generally and local law enforcement specifically, CPAs are still not bridging the gap they need to in order to have a broader impact, especially in relation to those who may not initially have positive views of the law enforcement agency.

When taking a more critical look at who the participants are in the sample, we see that 98% of participants were Caucasians with an average age of 52 and that everyone had obtained at least a high school level education. This reflects the demographics of the town of Cheektowaga and the Town of Tonawanda, but neither program is going out of their way to market to the youth or minorities who reside in their towns, especially with a background check as a requirement to participate. When comparing this to the demographic make-up of Erie County in general, blacks are well underrepresented in the participants of the Erie County CPA. In Erie County, 83% of the population is white, 14% black, and the remaining 3% accounts for all other racial and ethnic groups combined. Although the county population is largely white, our research shows that other racial and ethnic groups are not being targeted nor are they attending the CPAs in proportion to their representation in the larger population.

The greater majority of research has found that in the United States, minority citizens are far more likely to have trust issues with law enforcement agents and agencies (Huang & Vaughn, 1996). The issue of weak law enforcement-minority community relations is often typified by the uneasiness felt by citizens who are at the highest risk to feel alienated by law enforcement, as well as most likely to be victims of crime (Jordan, 2000). Unfortunately, research has pointed out that minority citizens are not afforded high priority in CPA recruitment nor, as we also found, are they proportionately represented in the majority of CPAs (Jordan, 2000). The large majority of participants appeared to be individuals from higher socioeconomic backgrounds. Yet those from lower socioeconomic backgrounds are the ones who should be targeted so that law enforcement has the opportunity to engage with those who may have issues with law enforcement. Those individuals who hold low views and perceptions of law enforcement are quite different from

those of the average CPA participant and are exactly the type of individuals who can have the greatest impact on the larger community if their perceptions are altered (Palmiotto & Unninthan, 2002). A question with singular relevance would be to analyze whether or not the results in a similar study would be the same if the participants were primarily from minorities as well as from lower socioeconomic backgrounds.

As previously mentioned, most CPA programs have a screening process that includes a background check for participation thus prohibiting some individuals who would otherwise like to attend. It may be beneficial to law enforcement agencies in Erie County and across the United States to begin working with high schools to attempt to reach individuals of a younger demographic. The development of a more youth-oriented CPA program similar to the program at Bernalillo High School developed by the Sheriff's Office of Sandoval County, New Mexico, may be very beneficial (Lesce, 2000). The establishment of such a youth-oriented program would have to ensure that instructors used candor with the youth CPA student in order to combat perceptions that some youth may believe that law enforcement agents are less than forthcoming with them (Lesce, 2000). This youth-oriented academy should cover essentially the same agenda as the three CPAs surveyed for this study. Overall, the instructors could be very successful in promoting community policing ideals if the CPA began to break down the barriers between law enforcement and the students. Again, this youth-oriented CPA would need to try to appeal to a broader base than just those high school students who already have a positive perception of law enforcement. There would be a need to attempt to implement a CPA that most or all students would attend so that "problem" students can be persuaded to build a positive relationship with the local law enforcement agencies. Evaluation should also be built into the program from the start.

Although it is not a negative for pro-law enforcement individuals to attend a CPA, it is obvious that their presence can skew the findings as seen in our research and all other research that has been conducted thus far regarding CPAs. Brewster, Stoloff, and Sanders (2005) uncovered an interesting effect with their research that we did not analyze. Although the majority of participants in their study were pro-law enforcement prior to attending the CPAs, they uncovered that 50% of the participants in one CPA and 24% of the participants in the other one studied reported that they had begun to explain law enforcement's role and mission to other citizens who had not attended a CPA. This is an important finding in that if these pro-law enforcement citizens spread the word to their friends and colleagues, who may not have favorable attitudes toward law enforcement, the impact of the CPA may be greater than can be measured by simply assessing changes in the participants themselves. The current study simply demonstrated that the same difficulties are faced by the Erie County, New York, law enforcement agencies. If the law enforcement agencies in Erie County, New York, and across the United States attempt to reach out to youth and individuals from lower socioeconomic backgrounds, then researchers can further their studies and expand the knowledge base. This would be beneficial to both law enforcement agencies and to the communities they serve and would possibly strengthen the relationship between the two as a whole, not just with the individuals who already hold pro-law enforcement views. No matter how the CPA is run and who is targeted, evaluation of the CPA is essential and needs to be built in from the

beginning. Utilizing a pretest and posttest evaluation instrument for all CPAs would encourage the collection of empirical data. This research effort utilized the data that was available and encouraged the current agencies to develop a pretest and posttest instrument for all future CPA classes in order to better measure the impacts of the CPA on its participants.

Endnote

¹ It should be noted that two of the participants also attended the Amherst Police Department's CPA, but we did not sample this CPA's participants.

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Ethics—Age Discrimination

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Police work is stressful. That is a proven fact, and it is one of the reasons why many law enforcement agencies allow service retirements of their sworn officers after 20 years of service, or at age 50. Jokingly, some officers boast that they plan a “20-20 retirement,” meaning that 20-minutes after their 20th anniversary comes about they plan to sign their retirement papers and leave. Some agencies, such as the California Highway Patrol, mandate retirement at age 60, while some other agencies allow an officer to work as long as they are able to.

On the other hand, there are many sworn officers who truly love the job and continue to “Protect and Serve” even though they have long passed the point of maximizing their pension benefits. An example is Corporal Bob Schroeder of the Long Beach, California, Police Department. Bob was sworn in as a police officer in 1965 and, as of this writing, is still patrolling the streets of Long Beach, working the graveyard shift as Unit “K-9-1,” along with his four-legged partner, Amigo.

Unfortunately, some law enforcement administrators tend to view the older officer as a liability, citing that the older officer may not be physically up to the rigors of modern law enforcement. Increased Workers’ Compensation claims is one of the reasons cited. Younger police administrators, seeking to modernize their department’s image, may resent any input from an “old dinosaur” telling them how things used to be. In many instances, however, the bottom line is money. With shrinking budgets, a senior officer with seniority, longevity, and other incentive pay stipends will probably earn considerably more than a rookie officer fresh out of the academy. Elimination of senior officers through attrition or retirement could help balance the budget and put more uniformed officers on the street for less money. Do the math!

One way of forcing an older officer from the agency is utilizing a forced “fitness-for-duty” examination wherein the officer is ordered, under the threat of insubordination (which is usually grounds for termination), to undergo a medical examination. In many cases, this may be a psychological examination. This could be used against an officer who does not agree with administration or their policies and chooses to argue with supervisors and administrators, and thus the officer is labeled as “unstable.” In other cases, the fitness-for-duty examination can be almost any kind of medical examination, either a general exam or a specialized exam by a cardiologist, ophthalmologist, audiologist, or orthopedic specialist to determine if the officer is still capable of performing the duties of a sworn police officer. Unfortunately, there are many doctors out there who will make a determination based solely upon the agency’s wishes and not reflect the true facts of the matter. Extreme cases may subject the officer to a physical agility test, which is usually administered to entry-level applicants. Many agencies mandate all sworn personnel undergo annual physical examinations and/or agility tests, which is a good thing as it ensures their personnel’s health and well-being and the ability to carry out their duties. A few agencies, wishing to rid themselves of a perceived “problem officer,” may utilize these tactics. If an individual is singled-out to undergo a forced fitness-for-duty or agility exam, the agency had better have good reason to require the exam and be able to back up their reasons with solid facts.

Another way of forcing an officer out is for the supervisors to closely monitor the targeted officer's performance. If any misconduct is discovered, formal departmental charges may be filed, resulting in an internal investigation. In some cases, if the officer is not vested in his or her pension plan and is terminated, pension benefits are lost. The officer may be accused of misconduct and offered the opportunity to retire because if any evidence of criminality is found, the officer's pension, the ability to carry a firearm after retirement, and other retirement perks are in jeopardy, not to mention the threat of prosecution.

Administrators are not always to blame for these practices. Occasionally, line officers are also involved in efforts to force an unwanted member from a coveted assignment or from the agency entirely. The rationale for this is so that he or she can advance in rank or to a coveted specialized position such as K-9, Investigations, S.W.A.T., Search & Rescue, Narcotics, a task force, Burglary Suppression, or other specialized assignment. Line officers and supervisors may conspire to force an individual out by spreading rumors or out-and-out lies. Other tactics include setting the individual up for failure by suddenly issuing reports of substandard behavior in performance evaluations.

One situation I am personally familiar with involves a female officer who became tired of working patrol shifts. She schemed to replace a newly promoted detective as his apparently easy desk-job and daytime working hours appealed to her. She started a campaign of rumors that the incumbent investigator was inept, which the department's administrators believed. This culminated when a suspect voluntarily came in to the station and confessed to a crime to the detective. The subject was not in custody, thus *Miranda*¹ was not an issue. The "detective-wannabee" filed a formal complaint against the detective, arguing that the *Miranda* admonishment needed to be administered and, because it was not, the case would be dismissed and the department subject to litigation due to the detective's alleged "ineptness." Instead of going through the usual channels, amazingly, her tactics were to stand outside the department's second-in-command's office and scream at her superior officer so everyone within earshot—chief, dispatch personnel, supervisors, other police officers, and civilians within the station—could hear her tirade about what a screw-up the incumbent detective was. Ultimately, the department believed her rumors, and she eventually got her wish—"bankers hours," Monday-to-Friday, nine-to-five—while the detective got his uniforms back in order and rotated back to a patrol shift. The new female detective also received a "merit" increase in salary and the former detective, who up until then had an exemplary record, "bought" a letter of reprimand/notice to correct. The department realized a mistake was made as it was eventually discovered that the new detective did very little detective work other than sit in her office and talk to her boyfriend on the telephone for most of the day. Some months later, she left the department for "greener grass," and the individual, whose career she damaged, was asked to return to detectives. By that time, the former detective had such bitter feelings over what had happened, he had no desire to return and clean up the mess she left behind.

Another incident I am personally familiar with involves an officer who was promoted to senior officer, which, in that department, was the equivalent rank of corporal or agent. One reason that the officer was promoted was based on the fact that the department's administration had enough confidence in his ability to select him to serve as an acting senior officer for six months. It did not hurt that he was a hard worker, had a lot of experience, was well liked, and had above-average performance

evaluations. Testing for the permanent position came about, and he made #1 on the promotion list and was promoted to the permanent position, pending a probationary period. Department policy mandated that when an individual was promoted, he or she was automatically transferred to a different shift. Unfortunately, once transferred to his new assignment, there was a conspiracy which included his new watch commander (lieutenant) and shift sergeant, who wanted their “fair-haired boy” in the position. This individual happened to be #3 on the promotion list and, incidentally, was the sergeant’s buddy. The lieutenant and sergeant were successful in getting the #2 candidate on the list promoted to another assignment, leaving their “fair-haired-boy” next on the list for promotion. Then, the conspirators went after the newly promoted senior officer and ensured that he did not meet probation by writing substandard evaluations of his performance. When these substandard performance evaluations were presented to the officer for his signature, the officer questioned them and was told that he was a “problem child” on his previous shift and needed to be watched—when there was absolutely no evidence of any misconduct. The watch commander and sergeant noted on the following performance evaluation that the officer in question was unable to take constructive criticism. Had the officer opted to argue the point with his supervisors, no doubt the words “unstable” and “argumentative” would have also been added. Adding fuel to the fire, the sergeant made numerous unsolicited comments at monthly staff meetings about how incompetent his newly promoted senior officer was. As predicted, the officer failed to pass probation and was demoted to his former rank.

The officer appealed and went through grievance procedures which ended at a level above his department’s chief. While the chief and department’s administration condoned and backed the lieutenant’s and sergeant’s actions, the administrative level above the chief, as well as most of the line officers, could clearly see the officer was “railroaded” from the position. After several agonizing months, the officer regained his promotion, and, incidentally, successfully passed his probation with flying colors under different supervisors. After that ordeal, understandably, the officer had little desire in ever going through the promotion process again. Because the department’s administration failed or refused to recognize the true facts of the matter until they were brought out in the grievance procedure, the conspirators’ actions did very serious damage to that department’s morale at the line-officer level, which at the time was already at a low point. A postscript to that incident occurred a couple of years later when two of the conspirators—the sergeant and the “fair-haired boy,” who both had a track record for being heavy-handed—were terminated for excessive force. Go figure!

Some years back, I was sent to Field Training Officer (FTO) School to learn to field-train recently hired officers. This was held at a regional police academy, and several officers from various agencies were in attendance. During one class session, the following question was brought up by one of my younger classmates: “How would a young Field Training Officer, with the minimum amount of experience, say two years, train a more experienced officer who was a lateral transfer from another department?” In reality, there is probably very little in field tactics that an officer with minimal experience could teach the veteran officer. The correct response for the young FTO to say would be, “This is how *we* do things in *this* department.” At that point, an officer from a department, well-known for being clannish and cliquish, stood up and announced, “Well, *we* had an officer from XYZ PD lateral over to us. Eighteen years of experience! And guess what? *We* blew him out!” With a smug, self-congratulatory

smirk, the officer sat down. My thoughts on the matter are that that officer, with 18 years of patrolling some of the meanest streets in Southern California—far meaner than any of the streets within the jurisdiction where my egotistical classmate worked, probably was not a screw-up, and his new department lost a valuable resource due to that training officer’s ego. I can imagine just how the *former* officer felt.

While some of the above actions may be legal within the framework of our existing laws, they are ethically and morally wrong. Compounding the situation would be having a police administrator sit the veteran officer down and say, “You’re too old to do the job anymore, Joe. You need to retire.” Today, a statement such as that would cause the administrator and department to be raked over the coals for age discrimination,² both criminally and civilly. Anyone placed in that position would be wise to seek legal counsel.

There are some agencies that value the services of retirees and actively utilize their services as reserve officers, volunteers, or as part-time employees doing investigative or clerical work. In many ways, this practice saves the department money by not having to pay benefits but still utilizing the accumulated years of knowledge of the retirees.

Unfortunately, that “old dinosaur” who was shown the door with a retirement ID card and maybe a retirement party a couple of weeks later walked away from his or her agency taking years of accumulated knowledge. The same is true for the officer who is improperly treated and laterally transfers to another department or leaves law enforcement altogether. A rookie officer fresh from the academy essentially is a warm body in a police uniform. It will take several years to accumulate and gain the knowledge that will make him or her a “veteran officer.”

Law enforcement administrators should be aware that these tactics do exist and if allowed to run rampant, they could have far-reaching effects. Honesty, integrity, and moral turpitude are the issues at stake. If a subordinate is willing to spread false rumors, or write incorrect performance evaluations, will that individual also lie and/or perjure him- or herself in a criminal case? If an officer’s performance suddenly takes a nose-dive, it would be wise to investigate the true reason. Yes, it is possible for officers to go bad, and if so, progressive discipline or corrective action needs to be administered. Other valid concerns could be burn-out, personal and work-related issues, and substance abuse, which can affect performance. On the other hand, a sudden and unexplained drop of the officer’s performance could also be a personality clash between the officer, his or her peers, and/or supervisor attempting to “railroad” the officer as part of their personal agenda. Administrators should not take a blind eye or condone such practices. They need to determine the truth and take appropriate action.

Endnotes

¹ *Miranda v. Arizona*, 384 U.S. 436 (1966).

² *Age Discrimination in Employment Act (ADEA) of 1967*, Public Law #90-202.

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The Limits of Auto Parts-Marking as a Situational Crime Prevention Measure: A Qualitative Analysis

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Introduction

Parts-marking is the practice of labeling or engraving specific component parts of a motor vehicle during manufacturing for later identification if the vehicle is disassembled or the parts are illegally separated from the original vehicle (Finn, 2000). The legislative intent is to assist law enforcement investigations by establishing a *prima facie* case that the parts have been illegally removed from a vehicle, which police officers tout as a valuable feature for prosecuting offenders. In some states, possession of marked or altered parts that have been separated from a vehicle establishes a rebuttable presumption that the parts are stolen (e.g., *NJSA 2C:20-7.1*, "Fencing"). This means unless and until the owner can provide evidence to the contrary, the parts are presumed stolen.

In an effort to address rising motor vehicle theft and auto stripping, Congress enacted the *Motor Vehicle Theft Law Enforcement Act of 1984* (Public Law 98-547), mandating vehicle manufacturers mark certain parts with a unique number that makes the parts readily identifiable if they are separated from the original vehicle. On October 5, 1992, the *Theft Prevention Standard of the Anti Car Theft Act of 1992* (Public Law 102-519) was modified to expand the range of vehicles subject to parts-marking. However, the 1992 legislative provision excluded light duty trucks and did not extend to more than 50% of the manufactured lines that were not designated as high theft lines, leaving a gap in the law (*Anti Car Theft Act of 1992*, "Theft Prevention Standard," Section 302). Moreover, it does not apply retroactively to existing vehicles, and if a particular car line is produced with an anti-theft device as standard equipment, then the manufacturer can petition the U.S. Department of Transportation to exempt that car line from the parts-marking requirement.

The Secretary of Transportation, U.S. Department of Transportation, is also authorized to promulgate "voluntary theft prevention standards" for those manufacturers not subject to the mandatory standard (Title 18, *USC* § 511) (U.S. Department of Justice, 2009); however, it is not clear how this complements parts-marking or what, if any, impact this has had on auto theft. Parts-marking has been in effect since 1987, the first full year of implementation.

Using qualitative analysis of conference notes and tape recordings, this research suggests that there are practical limitations, such as resource constraints and interagency coordination, that hinder full implementation, thus slowing investigations and prosecutions. There are also functional limitations insofar as the legislation only covers certain parts, certain product lines, and certain vehicles. Moreover, if the entire vehicle and not the parts are the object of the offender's desire, then it is not clear how the legislation would reduce theft.

This article addresses four questions about parts-marking that impact the law enforcement community: (1) "Does parts-marking help law enforcement investigations?" (2) "Does parts-marking affect the theft rate?" (3) "If parts-marking were no longer required, how would that affect law enforcement investigations?" and (4) "What are the most serious forms of professional theft?"

Methodology

The data are drawn from a peer group (Gamson, 1992, p. 192), a variation of the focus group method, on auto theft and parts-marking involving sworn law enforcement officers and civilian law enforcement support professionals held on March 13, 2009, at Rutgers University School of Criminal Justice (Newark, New Jersey). The peer group was part of a larger triangulated study sponsored by the U.S. National Highway Traffic Safety Administration (NHTSA) to examine the effectiveness of parts-marking and anti-theft technologies.¹

Peer groups are one way to assess the beliefs and perceptions of the participants in their own words and to acquire rich contextual detail about the problem beyond what randomized surveys permit (Dean, 1994; Goldman & McDonald, 1987; Krueger, 1988; Patton, 1990; Stewart & Shamdasani, 1990). Semistructured, open-ended questions were used to capture the data for each research question. The primary advantage of this technique over others is that it is interactive and allows participants to freely express themselves at length using their own concepts, interpretation, and terminology (Krueger, 1988).

The small-group conference style was chosen because it offers a conversational discourse in a guided manner and presents the possibility that participants' recollections will be prompted by their colleagues' comments. This method also enabled the research team to capture the participants' broad reality as well as the complexity of law enforcement's response to the issues in a single meeting (Barnard, 2000). The participants' answers to the questions were from direct and vicarious experience in dealing with auto theft and parts-marking cases and were not necessarily supported by empirical observation.

One researcher served as discussion moderator, while two others took notes and interjected probing questions to clarify ambiguities and explore a particular line of thought further. The session opened with a statement from the moderator that participation was voluntary; anyone could leave, and there would not be any adverse consequences for failing to participate or answer any questions. Participants were not compensated, except for minor incidental travel expenses; only one participant submitted for travel reimbursement.

Because we were interested in exploring different dimensions of auto theft and prevention and the relationship with parts-marking, we selected a purposive sample of 16 sworn law enforcement officers and four nonsworn (civilian) support professionals to participate. The participants represented 13 local, state/regional, and federal law enforcement agencies and three nonprofit organizations that support auto theft investigations (Table 1). Given that the participants represented three levels of government, had intimate knowledge of auto theft and its related crimes, and were incumbent members of some of the largest and most experienced police agencies in the United States with organizational units

dedicated to investigating auto theft and its attendant crimes, purposive sampling is an appropriate method (Maxfield & Babbie, 2001, pp. 238, 271-272).

Table 1. Auto Theft and Parts-Marking Conference Focus Group

Segment	Title	Agency
Local	Detective	New York City Police Department Auto Crime Division
	Sergeant	New York City Police Department Auto Crime Division
	Lieutenant	Newark Police Department Auto Crimes
	Sergeant	Newark Police Department Auto Crimes
	Detective	Newark Police Department Auto Crimes
	Police Officer	Philadelphia Police Department Auto Squad
	Police Officer	Philadelphia Police Department Auto Squad
State/ Regional	Detective Sergeant	Regional Auto Theft Task Force, Baltimore, MD
	Detective	New Jersey Division of Criminal Justice
	Detective	New Jersey Division of Criminal Justice
	Detective Sergeant	New Jersey State Police
	Detective Sergeant 1st Class	New Jersey State Police
	Senior Investigator	New York State Police Auto Theft Unit
	Detective	Port Authority Police Department New York/ New Jersey
Federal	Supervisory Special Agent	Immigration and Customs Enforcement, Newark, NJ
	Supervisory Special Agent	Federal Bureau of Investigation, Newark, NJ
Nonprofit	Detective	International Association of Auto Theft Investigators
	Special Agent	National Insurance Crime Bureau
	Special Agent	National Insurance Crime Bureau
	Director	North American Export Committee

The sampling procedure follows Patton’s (1990) recommendation for participant selection, which is to purposely select cases that are likely to yield rich information. Participants were recruited through existing associations with the research team. The final sample represented a cross-section of law enforcement personnel with varying degrees of responsibility in their respective agencies, including entry-level (police officer, special agent), investigator (detective, senior investigator), supervisor (detective sergeant, sergeant), mid-level manager (lieutenant), and upper/executive-level manager (supervisory special agent, director). The combination of sworn and nonsworn participants created an extended community of auto theft professionals with varied backgrounds and points of view, not exclusively from law enforcement.

The interview questions were developed after an extensive literature review of auto theft and prevention (e.g., Clarke & Harris, 1992b), international auto theft (e.g., Clarke & Brown, 2003; Field, Clarke, & Harris, 1991), offender motivation (e.g., Casey & Ransom, 2007; Clarke & Harris, 1992a; Cornish & Clarke, 1986, 2003), and situational crime prevention (Brantingham & Brantingham, 1984; Clarke, 1997; Cohen & Felson, 1979; Felson, 1998). Several mind-mapping sessions with researchers and graduate student assistants were conducted to ensure the questions were valid (Lincoln & Guba, 1985). For example, the research team met on five occasions prior to the meeting date to discuss the literature and the themes,

and to reach consensus on the questions. Finalizing the questions was an iterative process in light of our discussions, and differences about the final questions were resolved by returning to the literature for clarification.

The session was also tape recorded so a permanent record could be examined afterward, which eliminated recollection and interpretation errors. Although generalizations from focus groups to specific populations are not exact, research does suggest that when the population from which the data are drawn is relatively homogeneous—in this case, a peer group of career law enforcement officers and those who support law enforcement operations—the data is useful (Ward, Bertrand, & Brown, 1991).

Literature Review

Theoretical Framework

At its core, parts-marking is grounded in situational crime prevention theory (Clarke, 1997). This approach to controlling crime consists of three opportunity-reducing principles: (1) directing crime control measures at highly specific forms of crime; (2) managing, designing, or manipulating the immediate environment in as systematic and permanent a way as possible; and (3) increasing the perceived risk or effort to commit a crime, or reducing the rewards or removing the excuses for committing a crime (p. 4).

Situational crime prevention uses a taxonomy of 25 situational techniques grouped under five mutually exclusive categories that describe the intent and approach to intervention (Cornish & Clarke, 2003): (1) increasing the effort to commit the crime, (2) increasing the amount of risk to the offenders, (3) reducing the rewards produced by committing the crime, (4) reducing provocations that instigate crime, and (5) removing the excuses for committing the crime (Clarke & Eck, 2003). These propositions flow from incorporating three overlapping theories of crime causation: (1) routine activities (Cohen & Felson, 1979), (2) crime pattern theory (Brantingham & Brantingham, 1984), and (3) rational choice theory (Cornish & Clarke, 1986).

Routine Activities Theory

The *routine activities theory* suggests crime is more likely to occur, though not inevitable, when three conditions are satisfied: (1) the presence of a motivated offender, (2) the presence of a suitable target, and (3) the absence of capable guardians (Felson, 1998). The presence of a motivated offender is a given; the theory presumes an offender is predisposed to acting on his or her criminal inclinations, for without an overt act, there would not be a crime.

Once an offender is sufficiently motivated, they must find a suitable target. Suitable targets typically exhibit four qualities that structure an offender's choice in selecting it: (1) value, (2) inertia, (3) visibility, and (4) access (Felson, 1998, pp. 54-55). Different types of offenders see *value* from different perspectives. Joy riders and carjackers, for example, go after cars that have high symbolic value (e.g., fast/powerful, sporty, popular), whereas professional thieves go after whole cars or car parts that are easily converted to cash. *Inertia* refers to the target's weight and

how easily it can be carried away or disposed of. In the case of a whole car, it is inherently mobile and can be easily moved around. As for car parts, most of them can be quickly removed and transported or disposed of, which partly accounts for why auto stripping is an attractive crime.

Visibility is the degree to which the target can be seen and clearly identified. Quite obviously, a car is easily spotted while parked at the curb or at a parking facility by someone on foot, on a bicycle, or while slowly cruising through the area. Lastly, offenders must have *access* to the target. Because the overwhelming majority of vehicles are stolen from an outdoor location, they can be easily accessed. Thieves can also gain interior access rather easily by defeating the primitive locking system with very rudimentary tools such as a dent puller² or screwdriver.

The last segment of routine activities is the absence of *capable guardians*. The motivation to commit a car theft follows Hirschi's (1969) line of thought that crime occurs when controls are weak or absent. When temptations are high and controls are low, a motivated car thief can strike more easily with the reduced probability of being caught. A capable guardian is not necessarily a formal agent (e.g., a police officer or a security guard), but anyone who can serve as a reminder that someone is watching who may be able to identify the offender (e.g., peering citizens, building superintendent, parking lot attendant, store owner). Since most vehicles are stolen while unattended, it is understandable how thieves can strike quickly and leave without a trace.

Crime Pattern Theory

Crime pattern theory suggests people are intertwined in a relationship with their environment, and crime is a product of how people move about and converge in time and space with other people and objects (Brantingham & Brantingham, 1984, 1991, 1993). As offenders move around throughout the day in leisure activities or to and from work, particularly in familiar areas, they pass through or stop at certain places along certain routes that may reveal opportunities. Offenders typically come into contact with any number of suitable vehicles that are left unattended in familiar neighborhoods that provide easy access. It is this intimate association with the physical environment that stimulates offenders into acting.

Rational Choice Theory

Rational choice theory focuses on offender decisionmaking. The premise is that (1) humans are rational beings; (2) offenders are human; therefore (3) offenders are rational beings. Part of the offender's rational calculus before committing a crime is to weigh the costs (i.e., pain and punishment) and benefits (i.e., pleasure and gain). When the costs exceed the benefits, the offender is more likely to forego the crime. Part of the problem with this calculation is that offenders' decisions are never perfect, and they rely on information that structures their choices and constrains their decisions, which may result in flawed outcomes (i.e., arrest, injury, monetary loss, too much effort, not enough reward) (Clarke & Harris, 1992a; Cornish & Clarke, 1986). When offenders decide to steal or strip a car, they may underestimate various factors that may increase their risk of apprehension, increase the perceived effort, or reduce the anticipated rewards (Clarke, 1997).

For parts-marking to serve as a deterrent, two conditions should be satisfied. First, the presence of the mark or label must be visible. A visible mark or label forewarns an offender by stimulating his or her conscience by raising awareness of the offense through the person's senses. The information the marks or labels convey becomes meaningful when it is processed and understood by the offender in his or her present context. Once it is understood, then it constrains the offender's choices. Second, the marks or labels must represent a credible threat to the offender's position. That is, the marks or labels must evoke a perceived risk to the offender's choices to such a degree that they decide to desist, assuming they are acting in a rational or semirational manner (Cornish & Clarke, 1986). In the case of auto theft, the marks or labels serve as a visible disincentive to strip the car or possess the parts, a line of thought that is supported by studies of the effectiveness of parts-marking (Rhodes, Johnston, & McMullen, 1999; Rhodes & Kling, 2003) and theft (Matsueda, Kreager, & Huizinga, 2006).

Theoretical Implications

Together, routine activities, crime pattern theory, and rational choice form *opportunity theory*, which suggests specific situations, environments, and products can be manipulated to reduce crime. That is, interventions can be specifically constructed to "design-out" crime (Felson & Clarke, 1998; Jeffrey, 1971; Newman, 1972, 1996). There is a large body of research³ supporting this theory through a wide range of criminal behaviors, including delinquency (Burt, 1925), deceit (Farrington & Knight, 1980; Hartshorne & May, 1928), burglary (Brantingham & Brantingham, 1975; Reppetto, 1974; Scarr, 1973), and auto theft (Wilkins, 1964). The consistent premise of this line of research is that increasing risk or effort and reducing the rewards or benefits of crime—dimensions that can be intentionally controlled by industry, government, and individual citizens—has much to do with someone's decision to commit or forego criminal activity.

Parts-marking fits this theoretical profile to a degree and has implications for law enforcement operations and prosecution. Marking certain vehicle parts may increase the perceived risk that possessing the parts may bring official sanctions (i.e., increased likelihood of successful prosecution, increased likelihood of connecting the parts to a particular offender, increased likelihood of arrest if found in possession of the parts). At the same time, parts-marking removes the excuses and rewards for dealing in them (i.e., there is a legal basis to officially seize the parts; government inspections prevent others from accepting or trafficking in the parts; the labels place an offender on "notice" that the car is protected, thus stimulating their conscience; traffickers may raise their asking price if the parts are marked or bear labels because of the difficulties in trying to dispose of them).

Analysis and Findings

Does Parts-Marking Help Law Enforcement Investigations?

The panel participants generally agreed that parts-marking helps law enforcement in their investigation and prosecution efforts in various ways. This is consistent with survey research of auto theft investigators' views on parts-marking (Finn, Truitt, & Buron, 1996); however, there are some limitations. When parts are discovered during an investigation, defaced labels permit law enforcement to

seize the parts and request the owner—if one can be identified—to produce proof of purchase (e.g., *NJSA 39:10B-2*, “Motor Vehicle Parts Numbers”). Panel members indicated that in the overwhelming majority of cases, the purported “owner” cannot produce proof of purchase, and the parts are seized by law enforcement (e.g., *NJSA 39:10B-3*, “Seizure or Confiscation”).

There may be situations when parts seized during an investigation are not reported stolen and do not match the vehicle. Law enforcement officers then rely on parts-marking as an investigative tool to seize the parts and possibly match them to the rightful vehicle or owner at a later time. Similarly, if a vehicle is reported stolen and the stripped remains of that vehicle are recovered, then the parts that have been removed can still remain as an active alarm in the National Crime Information Center (NCIC).⁴ At a later time, anywhere across the United States, law enforcement authorities can query the NCIC to determine if the parts are stolen. This investigative leverage is made possible because the vehicle’s parts are marked.

Parts-marking also facilitates prosecution by giving prosecutors a *prima facie* case to file criminal charges against someone possessing a vehicle or parts with missing, altered, or mismatched labels. That the labels are defaced or removed creates a rebuttable presumption that the property is stolen—that is, unless and until the person possessing the parts that bear altered, missing, or mismatched labels produces evidence to the contrary, the government presumes the parts are stolen. Therefore, prosecutors can easily establish probable cause to initiate criminal charges for possession of stolen property.

The panel members noted that in New Jersey, for example, there is a presumption of knowledge that a person is in receipt of stolen property if the person is found in possession of altered property that typically carries unique identifying features such as serial numbers or permanently affixed labels (e.g., *NJSA 2C:20-7.1(a)*, “Fencing”). While missing or defaced labels by themselves may not provide “proof beyond a reasonable doubt” to sustain a conviction, they do contribute to the totality of the circumstances surrounding the prosecution. Moreover, labels may provide probable cause to secure a search or arrest warrant that may lead to additional investigations and prosecution at the state or federal level such as maintaining a chop-shop.

The panel also identified what they saw as a major limitation of parts-marking, which was the inconsistency across manufacturers in routinely reporting identification numbers of component parts. Some manufacturers keep detailed and accessible records that facilitate investigations, and other manufacturers supply few details to the National Insurance Crime Bureau (NICB), which collects data on vehicles with parts that are marked. The reporting is complicated by the variation in parts-marking during the manufacturing process. The parts-marking standard covers 18 component parts and their replacement parts on certain passenger vehicle lines.⁵ However, there are several commonly stolen items such as tires, headlights, wheel rims, and air bags that are inconsistently marked or are not marked at all by manufacturers nor reported to the NICB; this complicates identification.

Furthermore, the NICB commented that they receive different information from different manufacturers, which complicates the investigative process. Even if parts

bear a unique marking, law enforcement is not able to trace the part through the NICB because the original manufacturer did not supply the NICB with the data. If manufacturers consistently marked parts and reported them to the NICB, then after-the-fact identification would be simplified and parts could be traced. The NICB stated the current practice of having manufacturers provide them with data is an unregulated practice that relies on the good will of each manufacturer. It is based on a voluntary and cooperative agreement between the NICB and individual manufacturers that results in different reporting priorities for each manufacturer, which is compounded by different recordkeeping practices.

Parts-marking may also be limited due to legislative exemptions that allow manufacturers to forego marking the parts if the vehicle bears factory-installed security equipment.⁶ The exemption is predicated on the rate of theft for a particular line of cars, and the rate of theft is likely to be skewed in favor of joy riding rather than professional theft. Joy riding typically does not result in stripping; therefore, parts-marking is applicable to a much smaller subset of stolen vehicles (Field et al., 1991, p. 209; Harris & Clarke, 1991, p. 110).

The NICB was particularly critical of the parts-marking exemption, suggesting the logic behind the provision is more political than practical, something found in other research with auto theft investigators (Finn et al., 1996). The exemption may unwittingly increase vehicle theft for parts as the exemption becomes more widely known across the auto theft subculture, something known as “target displacement” (Eck, 1993; see Ayers & Levitt, 1998, for similar findings with Lojack[®]; see also Gabor, 1981; Reppetto, 1976). As a result, parts from exempted cars may be more sought after simply because they are not marked. The panel members noted a few additional limitations that impede police investigations, including labels that are easily removed, little or no training for patrol officers in locating and recognizing tampering, and counterfeit/fictitious anti-theft labels, which is consistent with previous research (Finn, 2000, pp. 12-13).

Does Parts-Marking Affect the Theft Rate?

The panel members generally agreed that parts-marking may not affect the incidence of motor vehicle theft due to different offender motivations. If vehicles are stolen for joy riding, exporting, or to commit other crimes and are not stripped, then thieves may not be deterred. Similarly, parts-marking probably does not affect carjacking since the object of the theft is typically the whole car, not just the parts.

For example, joy riding is a crime that is associated with various (typically) adolescent motivations, some of which are instrumental, such as entertainment and alleviating boredom, and others that are symbolic, such as peer recognition, power, status, and self-respect for which “the car itself is stolen not for what it does, but for what it means” (McCaghy, Giordano, & Henson, 1977, p. 378; see also Blumer, 1969; Bright, 1998; Casey, 2007; Kellett & Gross, 2006; Kleinfeld & Marriott, 1992; McCullough, Schmidt, & Lockhart, 1990; Stanley, 1995; Stephens & Squires, 2003). Joy riding necessitates the whole car remain intact to commit the offense as does exporting, resale, and retagging. When an offender is through joy riding with the car, it is parked or otherwise abandoned, and the parts are usually not removed, although some minor component theft may occur. As Parkes (1999) noted, “While permanent parts-marking can undoubtedly assist authorities

in the tracing of stolen vehicles, the amateur thief, who accounts for the majority of thefts, is not deterred" (p. 10).

Carjacking is another crime that necessitates keeping the whole car intact. In a manner similar to joy riding, the motivation for carjacking appears much more symbolic than instrumental and less likely to be driven by economic deprivation. It is a crime that is embedded in urban street life, which is characterized by an unconventional, spontaneous, and short-run hedonistic lifestyle as a way to express one's status, appeal to higher loyalties, or to exact revenge rather than as a livelihood (Blumer, 1969; Friday & Wellford, 1997; Jacobs, Topalli, & Wright, 2003; Jacobs & Wright, 2008; Shover & Honaker, 1992; Young & Borzycki, 2008).

The immediate reward from carjacking is not financial as it is in most conventional robberies. Instead, it represents an expressive inner personal desire dominated by opportunity and little forethought, similar to joy riding. It is amusing to watch someone's reaction as they submit in the face of fear and intimidation that may be enhanced by peer revelry or an enticing crowd in a carnival-like atmosphere. At the same time, it "represents the ideal way in which to punish drivers who dare to . . . 'floss their little stuff' by cruising through their neighborhood in a disrespectful way" (Jacobs et al., 2003, p. 682). Such "arrogant" behavior from the driver of a fancy car in a particular neighborhood is the triggering condition that sets the crime in motion. It is the product of short-tempered, impulsive people who "campaign for respect," where "might makes right and toughness is a virtue" (Anderson, 1999, p. 70) and where anger turns into aggression for those seeking to even the score (Bernard, 1990, 1993)—to save face—when confronted with a perceived wrong. This is a technical shortfall of parts-marking; carjackers who are not interested in the car's parts are not likely deterred by the law.

The panel members noted that carjacking is difficult to unravel partly because the data is often collapsed into the general category of robbery, and data on the proportion of carjacked vehicles that are not recovered is not available (Donahue, McLaughlin, & Damn, 1994). If carjacking is used by professional criminals as a means to steal more cars for parts, or for export, then the proportion of carjacked vehicles not recovered would increase. The panel members did not have data to support this hypothesis.

Moreover, the panel members agreed that carjacking is not primarily used by professional thieves as a means to take a whole car. If professional thieves must fill an order for a whole car that includes the keys, then the emerging trend is to stalk a car wash or valet parking service. At the car wash, they wait for a particular car to come out, and while an employee tends to it, they jump in and speed off before the owner can do anything. Similarly, thieves will hang around a valet parking lot where they steal keys or conspire with employees to steal keys to the car of their choice and then drive off. These are two nonviolent, nonconfrontational, and much less troublesome alternatives for professional thieves to steal cars. This reflects car thieves' ability to adapt and overcome new security devices (i.e., engine immobilizers), which implies the need for continued research into the relationship between emerging theft techniques and innovative security devices.

If Parts-Marking Were No Longer Required, How Would that Affect Law Enforcement Investigations?

The panel members suggested that if parts-marking is discontinued, then law enforcement investigations and prosecutions may be undermined. They also said they believed vehicle theft or possession of stolen car parts is a low priority for prosecutors, and custodial sentences upon conviction are unlikely, something found in previous research (Blumstein, Cohen, Roth, & Visser, 1986, p. 60; Clarke & Harris, 1992b, pp. 25-26; Devery, 1993; Geason & Wilson, 1990; Grabosky, 1999; Tarling, 1993; Wing, 1994, p. 395).

The panel also suggested that in some instances even when offenders are apprehended with parts that are stolen and appropriately marked, prosecutors require offenders to meet a specific dollar value threshold set by the individual prosecutor's office. The value is an artificial figure that varies widely between and within states, as well as with different levels of government (state and federal). For example, the FBI and Immigration and Customs Enforcement (ICE) reported a value threshold of \$120,000 set by the U.S. Attorney's office in Newark and \$500,000 set by the U.S. Attorney's office in the Southern District of New York, which covers Manhattan. The New Jersey State Police and the New Jersey Division of Criminal Justice reported \$500,000 at the state level in New Jersey, and the Baltimore County Police Department reported a \$2 million threshold in Baltimore County, Maryland. The panel members believed these artificial figures "watered down" law enforcement's ability to deter offenders and to exact accountability when the case did not meet the threshold. The indirect implication for auto theft and stripping is that the artificial prosecution thresholds may unwittingly provide offenders with a baseline under which to remain when dealing in stolen cars or parts. Knowledge of these artificial thresholds may circulate through the auto theft subculture based on direct and vicarious experience with the criminal justice system and provide offenders with a small measure of safety against prosecution, provided they do not possess too much stolen property at one time to rise above the prosecution trigger.

What Are the Most Serious Forms of Professional Theft?

Professional theft is the practice of stealing whole vehicles for resale, retagging, stripping, or exporting. There is a popular perception that professional theft is associated with organized crime; however, the panel's consensus was that traditional organized crime syndicates are not dealing in stolen vehicles to the degree popular opinion suggests. Rather, the picture of "organized crime" they painted was that of loose-knit groups of specialists—independent contractors of sorts—who rapidly come together to steal cars or chop them apart and then go their separate ways. The panel referred to "organized" offenders as a patchwork of associates who are simplistic in their operation. Their description of these loose-knit associations was similar to those found in other ostensibly well-organized criminal groups, including illegal gambling networks (Reuter, 1984) and drug trafficking networks (Eck & Gersh, 2000, p. 241; Natarajan & Belanger, 1998, as cited in Clarke & Brown, 2004, p. 208).

As for the extent of organization, the panel noted that it is not much more than a quasi-group—a clique of sorts—that forms quickly to fulfill a request to steal a

particular car or steal particular parts. The formation is temporary. Once complete, the network dissolves until the next request when a group of (perhaps) different *ad hoc* criminals who vaguely know each other “from the street”⁷ and often by only their first names, their nicknames, or their criminal specialties come together once more. These transient associations are harder to identify, track, and connect to each other. The independent associations are purposely fragmented and may make it more difficult for law enforcement to establish connections between actors and to build a successful prosecution for *Racketeer Influenced and Corrupt Organizations (RICO)* (Title IX, *Organized Crime Control Act of 1970* [RICO Act], USC §§ 1961-1968) or conspiracy (Title 18, USC § 371, “Conspiracy to Commit Offense or to Defraud United States”).

The image that emerged of organized crime’s involvement in professional theft is one of unskilled or low-skilled offenders operating with a few others (e.g., Wallace, 2004, p. 9) who are bound together because of their desire to profit from illegal activity and who are not necessarily embedded in a hierarchal organization (Cusson, 1993; Resendiz & Neal, 2000; but see Miller, 1987, for a contradictory assertion). In this decentralized environment, there is no hierarchy, no centralized leadership, and no connection to a higher authority or bureaucracy. Indeed, it is quite the opposite. It is a bottom-up structure with a series of individuals motivated simply by profit or other personal enrichment, who exploit specific opportunities if and when they arise (Levi & Naylor, 2000).

This is not to suggest traditional organized crime is not involved in auto theft at any level (e.g., Levy, 1994; Smothers, 1985). Rather, it may be best to view organized crime along a continuum, where traditional organized groups and loosely coupled groups represent opposite ends. Some research shows that traditional organized crime itself is not as organized, rigid, and bureaucratic as social lore implies, so it is not particularly surprising to learn from the panel that other criminal groups are loose-knit as well (Abadinsky, 1983; Albin, 1971; Lombardo, 1994). Rather than traditional organized crime being a major problem for law enforcement, the panel believed that “port shopping” for exportation, retagging, and chop-shop operations continued to be a more serious threat to auto theft.

Exportation

The panel members noted that exporting cars for profit is an area of professional theft wherein parts-marking may show some limitations. Although theft for export continues to be a problem, the true magnitude of the problem is not known because the issues surrounding it are complex. Among the issues described by the panel were (1) recordkeeping practices; (2) staffing levels at local, state, and federal law enforcement and regulatory agencies committed to exporting investigations; (3) the number of exported containers physically inspected by U.S. Customs; (4) the low priority placed on auto theft by some law enforcement agencies and prosecutors; and (5) use of fraudulent documents to mask the illegal export.

From past experience, the panel members noted that exporting vehicles for profit often involves people who have preexisting contacts in foreign countries that can help facilitate getting the vehicles out of the United States and into the destination country. Social ties are vital to making this happen (e.g., Kleemans & Van de Bunt, 1999) and typically involve ethnic immigrants who come to the United States with

preexisting connections to foreign countries, particularly Mexico; Russia; Central America, especially the Dominican Republic; Eastern Europe; and West Africa. Sometimes domestic citizens cultivate their own foreign contacts through their natural involvement in auto crime, but this is not the usual method. Once the contacts are established, thieves begin working on getting the vehicle out of the country; and once the vehicles have left the country, there is little hope that they will be recovered. One estimate on repatriation of stolen vehicles from foreign countries is less than 1% (*Report of the Interagency Commission on Crime and Security in U.S. Seaports*, 2000, p. 53).

What makes stolen vehicle exporting such a difficult crime to measure is that it is not possible to measure the absence of something, and data about motor vehicle theft in general is captured in disparate forms by several public agencies and private vendors, which restricts access and complicates analysis (Maxfield & Clarke, 2009, pp. 3-4). Previous research suggests that the full extent of crime at U.S. seaports cannot be known because (1) there are “no national data collection and reporting systems; (2) federal databases do not adequately collect and report crime data by seaports; and (3) local and state law enforcement agencies do not specifically collect and report crime data by seaports” (*Report of the Interagency Commission on Crime and Security in U.S. Seaports*, 2000, p. 57). This leaves unanswered many relevant policy questions.

At best, the extent of the problem is based on anecdotal information and may not be supported by rigorous statistical methods. For example, one researcher asked the panel for the source of data on exported stolen vehicles that are historically published by the NICB. The response from one panel member was “We made it up.” The panel member went on to say that during the 1990s, when nearly 1.5 million cars were reported stolen in the United States, the estimate from government sources on the number of stolen vehicles being exported was about 10%. When probed further by the same researcher, “Do you have anything more concrete than that nowadays?” the response was “No, we are still working with that estimate” with no further explanation of how that estimate was derived.

When vehicles simply “disappear,” the best approach is to rely on a measure that closely reflects the outcome in question, which, in this case, is exported vehicles. Theft for export relies on a proxy measure to estimate the number of stolen vehicles that are moved out of the United States because, as the panel members noted, law enforcement cannot exactly measure what is required. The number of stolen vehicles that are not recovered is one way to estimate how many vehicles leave the country. This method is limited because it pools all unrecovered vehicles, which does not account for the risk each model presents since it is believed that only select models are vulnerable to export (Clarke & Brown, 2003, p. 215).⁸ Pooling the data artificially inflates the true effect since some vehicles are not likely to have been exported. The panel noted that theft of motor vehicles for export is primarily facilitated through “port shopping,” document fraud, and vehicle switching.

Port Shopping

The NICB stated and the Port Authority police concurred that there has been an exceptionally large increase in vehicles leaving the country through Port Newark. The Port of New York and New Jersey, which is operated by the Port Authority of

New York and New Jersey, is one of the leading North American ports for vehicle exporting. In 2007, the port handled 930,298 imported and exported vehicles; nearly 29% of the total vehicles (266,759) were exports.^{9,10} When asked about what proportion of exported vehicles may be stolen, the group readily conceded they did not know and that reliable estimates were difficult to formulate. ICE believes many of these exported vehicles are brought to Port Newark from regions that have ports of their own, including Boston, Norfolk, Miami, Delaware, Pennsylvania, Maryland, and Canada. This suggests professional thieves may be “port shopping” because they recognize security and physical inspection varies widely among ports.

Port shopping is a scheme used by those dealing in stolen cars and/or stolen car parts to choose a particular port based on their assessment of U.S. Customs’ security practices rather than the location or efficiency of the port itself. Thieves exporting a stolen vehicle or stolen parts go from port to port “shopping” for a port with minimal security, thus facilitating easy export. Port Newark may be a favorite among car thieves because of the large legitimate cargo volume and the limited physical inspections of outgoing cargo. According to ICE panel members, ICE physically inspects less than 1% of all containers before they are loaded. Their target is to inspect between 3 and 5% of containers before shipping, meaning currently 99% of containers go uninspected. If ICE meets the upper end of their target, then, at best, 95% of the containers will go uninspected.

Inconsistent document review, understaffing, port culture, and individual officer initiative may combine to ruin a port’s reputation. A port’s reputation as *porous* may circulate quickly throughout the auto theft subculture, which flows from individual experiences at each port and ultimately may account for the variation in exports.

The panel members suggested that the rise in the number of cars leaving the U.S. through Port Newark may be partly due to the federal government’s response to money transfers into and out of the country since September 11 as part of the effort to disrupt terrorism. The flow of currency is tracked more diligently by federal authorities and banks; however, stolen cars are being exported and converted to cash as a scheme to finance terrorism because there is little risk of being caught. Whereas officials are watching currency exchanges, they are not watching vehicle exports as closely. Consequently, the panel believed that “conventional criminal investigations” involving stolen cars and document fraud, such as identity theft and fictitious motor vehicle credentials, may be among the most important terrorism precursors law enforcement agencies can target (Hamm, 2005, p. vi).

Document Fraud

Document fraud occurs when offenders manufacture, sell, or use counterfeit identity documents or obtain genuine identity documents through fraudulent means, or alter valid documents for fraudulent purposes such as exporting stolen cars. Document fraud facilitates theft for export, where different documents are used for different purposes (Newman, 2004, p. 3): (1) a driver’s license or birth certificate creates a new and legitimate identity for a criminal; (2) the vehicle registration, bill of sale, and title creates a new and legitimate identity for the stolen vehicle; and (3) the manifest or bill of lading creates legitimate shipping documents, each of which is necessary at different points in the export process.

Genuine documents and blank forms may be obtained by stealing them from a shipping company or government agency—sometimes with the help of employees—and by *information diving*—the practice of sifting through residential or commercial trash as a source for documents and information that have been discarded. If genuine documents cannot be obtained, then high-quality counterfeit documents may be produced that resemble genuine documents. Since there is no federal standard across documents (e.g., titles, registrations, manifests, bills of lading), confusing authorities in different states when titling a vehicle may be easier as is minimizing detection at port facilities.

The panel members noted that one way document fraud facilitates exporting is through fictitious manifesting. When cargo leaving the country is manifested as a vehicle, documents must be presented to ICE officials 72 hours before loading so the contents can be verified. The vehicle must be accompanied by an “original or certified copy of the certificate of title and two facsimiles of the original or certified copy to Customs at the port of exportation. . . . If a certificate of title is not available due to state statutory requirements, the person attempting to export one of these vehicles may present another document to prove lawful ownership” (U.S. General Accounting Office, 1999, p. 3; see also 19 *CFR* section 192.2(c), “Requirements for Exportation”).

This requirement can be subverted in different ways that prevent—or at least hamper—ICE officials from verifying a container’s contents. For example, when a vehicle is placed in a container and is manifested as “textiles,” “wearing apparel,” or “household goods,” it draws little suspicion from ICE officials. Although textiles, apparel, and household goods receive more scrutiny by ICE today than in years past, in the interest of world commerce, the containers are not routinely detained or physically inspected (U.S. General Accounting Office, 1999, p. 6). Moreover, the name of the person shipping the items that appears on the documentation may be fictitious. The panel agreed that law enforcement does not currently have a mechanism to verify whether the person listed on the documents actually exists. ICE stated that if it is discovered that the person shipping the goods is fictitious, then they will perform a physical inspection of the container and continue with an investigation, but this is infrequent.

Another method is to proffer counterfeit documents that accompany a stolen vehicle destined for a foreign country. Weaknesses in verifying export manifests may be widely known among auto thieves through direct and vicarious experience with criminal investigations. The panel believed that obtaining genuine documents to accompany a vehicle is not particularly difficult and is typically accomplished as part of a retagging operation (discussed in the next section). After the vehicle is retagged, a genuine title and/or registration for the car is obtained and presented at the time of export. Weaknesses in titling and registration make it easier to acquire a genuine title or registration, which is ultimately used to get the car out of the country.

The panel members noted that although most state motor vehicle centers provide some training and orientation for employees on recognizing document fraud, it is rudimentary and is not a strong prevention technique. Since many transactions at motor vehicle centers are “over-the-counter,” physical inspection of the vehicle being titled or registered does not happen; there is no way to verify whether or

not the vehicle in question actually exists and, if it does, whether or not it matches the documents being presented. Requiring a physical inspection at the time the vehicle is presented for titling or registration interposes another step that may expose whether the car was stolen. The panel members were quick to note that genuine documents raise virtually no suspicion unless they are accompanied by some other incriminating or suspicious evidence.

Vehicle Switching

Lastly, the practice of *vehicle switching* may occur. This is when a stolen vehicle is substituted for a legitimate vehicle after the legitimate vehicle has been presented to ICE authorities for inspection and has been cleared for export. Vehicle switching generally occurs in this sequence: (1) Customs clears a vehicle for export; (2) the vehicle is then stored at the shipper's yard or at an approved shipping broker's yard before it is loaded aboard a container—while the vehicle awaits containering, Customs has no control over these private yards; (3) offenders then switch the vehicle that was originally approved for shipping with a stolen car of the same make, model, color, and vehicle identification number (VIN) (i.e., a retagged vehicle); and (4) the stolen car is loaded aboard the container and the previously approved documents are proffered (U.S. General Accounting Office, 1999, p. 5). Rarely, if ever, will ICE have cause to question their own previously approved documents, so the containers leave freely.

Retagging and Chop-Shop Operations

Retagging

Retagging, also known as rebirthing, revinning, salvage switching, and cloning, is the practice of transferring identifying parts, such as the VIN from a vehicle of the same make, model, and year as a stolen vehicle, and then registering or selling the stolen vehicle as a legitimate vehicle. The panel members said that retagging has been a perennial problem, the extent of which is not completely known, and verifiable data are not readily available. Retagging usually occurs in two ways:

1. *Salvage Titling* – A salvage title for a wrecked vehicle is obtained legitimately. A car that matches the year, make, model, and color of the salvage vehicle is then stolen. The public VIN plate is switched from the legitimate salvage vehicle to the stolen vehicle. The stolen vehicle is then titled and registered with genuine documents and sold to an unsuspecting buyer or exported.
2. *Strip and Buy Back* – Thieves steal a vehicle, and then strip the major component parts. The vehicle is dumped on a public street where it is removed by police or other authority. Then, thieves wait for the vehicle to surface at a salvage auction, buy it back, reassemble it, and use the salvage title to register the car as legitimate.

When a retagged vehicle is exported, the vehicle and documents are presented to ICE officials. Because the vehicle and the accompanying documents are now "legitimate," there is little or no reason to question their authenticity. Retagging is a relatively easy, lucrative, and low-risk crime that has also corrupted some law enforcement officials (Fisher, 1996; Kleinknecht, 2000). The panel members said

that persistent deficiencies in the salvage process may contribute to the retagging problem, including the following:

- Improper endorsement of the salvage title by the title holder
- Unreadable or missing notation on the title that the vehicle is a “salvage vehicle”
- The condition and extent of the damage before a salvage title is issued
- Proof of where new major component parts came from when restoring a salvage vehicle (National Association of Attorneys General, 1979, p. 17)

Chop-Shop Operations

The panel members largely agreed that if the intent of auto theft is to profit from disassembling the vehicle through stripping or chop-shop operations, then parts-marking may play a role in reducing opportunities for that behavior. For a few offenders who may have participated in joy riding in their earlier years, auto theft and related crime persists into adulthood as part of their life-course behavior (Moffit, 2003). At this point, offenders switch from symbolic motives to instrumental motives, specifically financial gain (Slobodian & Browne, 2001; Tremblay, Talon, & Hurley, 2001).

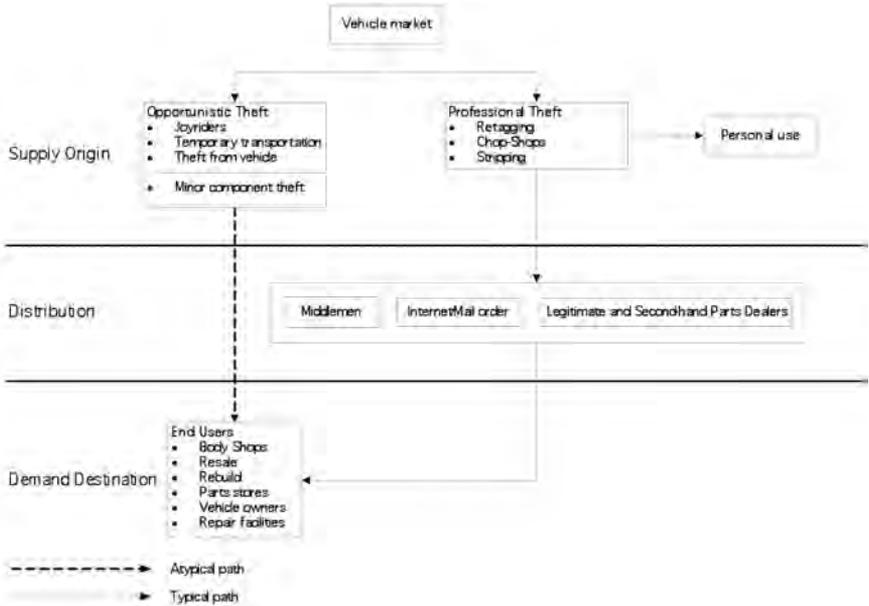
The panel noted that chop-shops continue to operate but that their character has changed. In the past, chopping cars for their parts was organized around ethnic lines and operated inside legitimate auto body or auto repair facilities. The panel reported that large-scale organized chopping operations began to decline in the late 1990s and the early 2000s when organized groups gave way to independent contractors who were harder to identify, track, and connect to each other. Independent contractors are purposely fragmented, making it much more difficult, if not impossible, for law enforcement to make associations between actors and to build a successful prosecution under *RICO* charges.

The panel also suggested chop-shop operations have declined as a result of regulatory inspections and enforcement.¹¹ The practice of comingling chop-shops with auto repair businesses has given way to *ad hoc* operations that are set up and broken down within a few hours or days in scattered locations such as private backyards, inside abandoned buildings, in tow yards, and in open fields. The New York City Police Department described their experience with chopping operations that are set up alongside major highways or under a highway overpass adjacent to a grassy meadow. Cars are chopped at the location; the parts are placed in the tall reeds out of sight; and customers are notified to retrieve the parts. One person acts as a spotter, watching for police while the customer retrieves the parts. The “bones” (the remains of a stripped vehicle) are left along the roadway and are eventually removed by police.

The panel also suggested that chop-shop and auto stripping operations may be driven partly by the second-hand parts market. Little is known about the second-hand parts market, particularly the relationship between legitimate second-hand parts and stolen parts and how they are acquired and distributed (Figure 1). A better understanding of the relationships among thieves, distributors, and end-users is necessary for intervention strategies as is the process by which parts enter the supply chain. The demand for second-hand parts may be driven by resale and repairs; however, valid estimates of the percentage of stolen parts used for resale

and repairs do not exist and are complicated by the interchangeable nature of some parts. The demand for stolen parts may increase when certain major components are hard to find, when they have been discontinued, when supplies are restricted or limited, or when the parts are very expensive (Gant & Grabosky, 2001, p. 2).

Figure 1. Stolen Vehicle Parts Distribution Path



Modified from Freiberg (1996).

Policy Implications

Some of the policy implications are not new. Instead, they represent a renewed interest in similar measures proposed by the National Association of Attorneys General (1979) on organized auto theft and those proposed by Richard Jaffares, Chairman, New York/New Jersey Anti-Car Theft Committee, who outlined the regional auto theft problem in New York and New Jersey (December 9, 1991, hearing before the 102nd Congress).

Parts-marking, like other well-intended situational crime prevention measures, suffers a degree of implementation failure from a combination of unanticipated technical difficulties, inadequate supervision of implementation, failure to coordinate action among different agencies, competing priorities, and unanticipated costs (Hope & Murphy, 1983, cited in Clarke & Eck, 2003, Step 39; see also Grabosky, 1996). The panel agreed that parts-marking alone will not deter auto thieves who are interested in stealing the whole car, not just its parts. They believed that efforts to improve detection, prosecution, and investigation of professional thieves may rest with a combination of better law enforcement

processes, additional financial resources, and revised legislation that are coupled with emerging anti-theft technologies.

Law Enforcement Process Initiatives

From a process perspective, local and state governments bear more responsibility than federal policymakers, although federal incentives or political persuasion may prompt local and state policymakers and executive branch appointees to be more responsive. Currently, it is possible to title a stolen vehicle in another state with virtually no scrutiny since there are few mechanisms for employees at motor vehicle centers to detect the theft. Auto thieves can easily exploit the disparate state government titling and registration processes since each state adopts its own unique system without cross references. This makes the titling and registration system inherently weak, especially since the 50 state motor vehicle centers are not linked to a common database of titling and registration information.

The American Association of Motor Vehicle Administrators (AAMVA) has proposed a model *vehicle document examiner certification* to uncover title and registration fraud; however, this is not yet operational nationwide. The National Motor Vehicle Title and Information System (NMVTIS)—a federally funded motor vehicle titling information system—is operational and, as of May 2010, 82% of U.S. motor vehicle centers have their data represented in the system. The system still lacks full participation, however, which is a barrier to effective law enforcement. For example, New Jersey only provides data but does not make inquiries.¹² Mandatory state participation requires changes in legislation and federal funding to ensure compliance and uniformity, which may virtually eliminate retagging.

In addition, some state motor vehicle centers do not have access to NCIC because NCIC is reserved for law enforcement purposes, and motor vehicle centers are considered a regulatory function. If motor vehicle centers could check the status of vehicles being registered or titled in their state, then state government extends guardianship, increases the risk of detection and apprehension, increases investigative efficiency, and improves situational awareness by making pertinent information readily accessible to law enforcement.

Financial Initiatives

As for resources, some law enforcement agencies have dissolved auto theft divisions, significantly reduced the size of auto theft divisions, or significantly reduced their investigative responsibilities.¹³ Some now serve primarily as clearinghouses for documentation and do very few auto theft investigations. The emphases of law enforcement and prosecution have shifted toward violent crime, narcotics, and terrorism, fostering less cooperation among different levels of government (local, county, state, and federal). Police administrators do not pursue auto theft with the same degree of vigor and seriousness today as they have in the past. By dissolving auto theft divisions or downsizing them and transferring personnel to other elements of the agency, there is a rapid and potentially irreplaceable loss of institutional knowledge that frustrates thorough investigations.

Additional financial resources are necessary to support local, state, and regional law enforcement efforts to address auto stripping and auto theft. Some law

enforcement organizations do not have the personnel or equipment resources to dedicate to auto theft. Federal appropriations support auto theft and exporting task force operations at various ports across the United States, which augments ICE. Task force operations improve regional investigative capacity and reduce the fragmentation that comes from a decentralized law enforcement function like that which exists in the United States. Moreover, financial resources to support shipping container inspections directly increases the physical presence of law enforcement personnel at port facilities. Physical inspections extend guardianship and increase the risk of detection and apprehension by increasing formal surveillance over the target goods and concentrating scarce resources toward a narrow purpose. This may reduce or eliminate port shopping.

Legislative Initiatives

There are a series of shortfalls in the parts-marking legislation, including exceptions to the laws that govern motor vehicles at the national level and discontinuity in state legislation that may unwittingly contribute to professional theft by pushing offenders to states with more lenient laws. First, the range of parts required to be marked is not exhaustive, leaving commonly stolen parts uncovered. Expanding the range of required parts to be marked reduces the rewards and removes the incentive to deal in such parts by narrowing the universe of parts that are seen as valuable.

Second, there is no mandate that auto manufacturers report marked parts to the NICB. Mandatory reporting to the NICB extends guardianship, increases efficiency during investigations, and improves situational awareness by making pertinent information readily accessible to law enforcement. Third, auto manufacturers can petition to have a car line exempted from the parts-marking requirement if the car line bears a different anti-theft device. Consequently, there is a gap in law enforcement's ability to identify stolen parts when they are stripped from a car whose line has been exempt. Eliminating the parts-marking exemption reduces rewards by expanding the universe of major component parts that are marked and readily identifiable.

In addition to the problems with parts-marking legislation, there is no legislation regulating uniformity among documents in state motor vehicle agencies or shipping companies. These documents, which are required for exporting, should bear standard language, format, and immutable security features that can be authenticated on the spot or via an Internet-based authentication system by ICE officials when a vehicle is presented for export (e.g., watermarks, hidden security images, raised lettering [tactile engraving], holograms, or special "fabric" paper). Uniform documents increase the risk of detection and apprehension and increase the effort it takes to commit fraud by making counterfeiting more difficult and recognition easier.

Anti-Theft Technologies

Because parts-marking is limited, other direct deterrent technologies that are emerging may close the gap left by this technique. Research in the United States (JP Research, 2006), the United Kingdom (Brown, 2004; Brown & Thomas, 2003), and Australia (Comprehensive Auto Theft Research System, 2007; National Motor

Vehicle Theft Reduction Council, 2001; Potter & Thomas, 2001) suggests that motor vehicle theft declined after engine immobilizers were introduced. Similarly, Lojack[®] has shown some empirical success, including diffusion of benefits despite some minor limitations (Ayres & Levitt, 1998; Clarke & Weisburd, 1994; Gonzalez-Navarro, 2007; Hesseling, 1994).¹⁵

Lojack[®] may also help reduce chop-shop operations. Since a Lojack[®]-equipped vehicle is likely to have its signal activated shortly after the car is stolen and because the transceiver is secreted in the vehicle, the risk to chop-shop operators may increase. Auto thieves may not be willing to risk taking possession of a vehicle *potentially* equipped with Lojack[®] and have the police track the vehicle directly to the location where the car is being dismantled. For example, if police officers track a Lojack[®] "hit" to a private garage or building, in some states, the confirmed "hit" provides probable cause to apply for a search warrant for the garage or building from which the signal is coming. In other states that follow federal search and seizure law, including federal law enforcement agencies, a confirmed Lojack[®] "hit" may provide the basis for an immediate search as an exception to the written warrant requirement under the exigent circumstances doctrine (e.g., Burd, 2010).

Amid the impressive gains, the biggest limitation of Lojack[®] is *target displacement*. This occurs when car thieves steal older cars that are less likely to have Lojack[®] installed (Clarke & Eck, 2003, Step 13). Perhaps the most important finding in the Lojack[®] research that supports opportunity theory is that increases in arrests *were not* statistically significant, although the relationship was negative and in the direction of causal theory (Ayres & Levitt, 1998, pp. 59-60). This suggests arrest-based police initiatives *are not* the primary conduit for reducing auto theft. Designing-out opportunity and using a diversified approach instead of relying on traditional after-the-fact police investigations and court sanctions will probably yield greater gains in auto theft reduction (Donohue & Siegelman, 1996, as cited in Ayres & Levitt, 1998).

Discussion, Limitations, and Directions for Future Research

Discussion

The auto theft peer group was convened to explore the impact of parts-marking on auto stripping and professional auto theft. It was also intended to explore the practical implications of discontinuing parts-marking and the emerging technologies that might supplement or replace parts-marking. The intent behind parts-marking legislation is to reduce auto theft and auto stripping. This logic is firmly grounded in the opportunity theory of criminology that suggests government, private corporations, and individuals can design or manipulate the immediate environment in specific ways that increase the perceived risk or effort to commit a crime, reduce the rewards, or remove the excuses for committing a crime.

The unique identifying numbers makes parts-marking a useful tool by giving law enforcement the ability to seize the parts, match them to their rightful owner or the vehicle from which they came, and prosecute offenders for possessing them. Without the unique marks, this would not be possible.

However, parts-marking is limited based on the offender's motivation. If an offender is motivated by joy riding or professional theft, crimes that rely on keeping the whole car intact, then parts-marking is not likely to prevent these crimes. While professional theft is widely believed to be a crime that involves traditional organized crime groups, this may be more myth than reality, and professional theft is probably not as sophisticated as social lore suggests. Professional theft is based more on loose-knit confederations of associates than on shadowy, secretive hierarchical organizations. This suggests there is no organizational entity to infiltrate and, thus, establishing connections to individuals to build a case for conspiracy or racketeering is much more difficult.

Without hardening the target, the object of the offender's desire remains vulnerable. This means police agencies that rely almost exclusively upon a traditional "law enforcement" style, including randomized motor patrol (Kelling, Pate, Dieckman, & Brown, 1974), swift response time (Cordner, Greene, & Bynum, 1983, pp. 145-164; Harris, 1978; Spellman & Brown, 1984), and follow-up investigative work (Greenwood, 1975) are not necessarily the most effective means for controlling crime. Recent research by the National Research Council (2003, Figure 6.1 and Table 6.1, pp. 248-249) and Sherman and Eck (2002) suggests that the better approach to long-term sustainable crime control is to use diverse and focused methods such as coupling traditional law enforcement strategies with opportunity-reducing strategies and new technology.

Limitations of the Current Study and Directions for Future Research

The primary limitations of this research are the validity of the data, the lack of supporting empirical data, and the peer group composition. There is always the threat that focus group participants may intentionally offer untruthful or misleading information in an effort to avoid appearing silly or inept in front of their colleagues or that they may answer the way they believe the researchers would like in order to guard against criticism or to guard against department discipline, particularly since their voices were being tape recorded. The validity and reliability of the data collected during the conference cannot be directly assessed; however, to improve confidence in the findings, we guaranteed confidentiality. The purpose of the confidentiality promise is to increase the credibility and reliability of the findings by minimizing the participants' concern over subsequent uses of any identifiable information. Confidentiality tends to encourage participants to accurately report information; given the candor and consensus of many of the responses, this seems to have succeeded.

Although the peer/focus group method yields rich descriptive information about a topic, including insight that would not be accessible without the inherent interaction found in such a setting, there is little supporting empirical data. The panel experts did not have reliable data on prosecutions, organized crime, exported stolen vehicles, nor carjacking. For example, the lack of rigor used to estimate exported stolen vehicles affects reliability. While the peer/focus group method can provide important insight into human behavior and processes, this method is not designed to be generalized in the same way that empirical data is (Fern, 2001).

In addition, the panel was comprised of law enforcement personnel from East Coast states (New York, New Jersey, Maryland, and Pennsylvania), whose experiences

may be relatively similar due to geographical and cultural continuity. The panel members were not drawn from a random sample; therefore, their insights are not necessarily representative of the entire U.S. law enforcement community.

Future research should focus on geographical areas outside the middle-Atlantic region and outside the New York/New Jersey, Baltimore/Washington, and Philadelphia/Wilmington metropolitan areas. The regions are densely populated with more vehicles to steal and a concentration of ethnic immigrants who may have international connections that facilitate theft for export. Exploring how professional theft and auto stripping occur in other regions of the United States will provide some insight into the generalizability of the findings in this research. It is important to compare patterns of auto theft in border states, states with major shipping ports, and interior states to gain a more complete picture of the problem, which will strengthen confidence in the findings from this single study. It would be interesting to see if other port cities experience “port shopping” the way the panel suggests Newark does.

Also, research on active and retired offenders involved in organized crime and professional theft should be undertaken (Decker, 2005). Through interviews and direct-observation field research, it is possible to create a taxonomy of how offenders operate, including their motivations; how they select certain vehicles and shipping routes; how they organize their operations; their relationships and associations with immigrants; how they retag, manifest, and legitimize the vehicle; and their interactions with clients. This will provide a more accurate account of the nature and extent of professional theft as well as uncover gaps in legislation, law enforcement operations, and the commercial shipping trade that facilitate professional theft.

Lastly, the second-hand parts market is not well understood by the law enforcement or research communities. Second-hand parts may contribute to auto stripping, but the nature and extent of the problem is not known. The relationships among car thieves, distributors, and end-users must be understood before effective intervention strategies can be developed. A systems approach to the supply, demand, and distribution of second-hand parts is necessary so interdependencies can be examined. The demand for second-hand parts is driven by discontinued or hard to find parts, limited or restricted supplies, resale, and repairs. Currently, there are no valid estimates of the percentage of stolen parts in each of these categories.

Endnotes

- ¹ Rutgers School of Criminal Justice was a subgrantee of Maryn Consulting Group, Washington, DC, who was the primary grantee of National Highway Traffic Safety Administration (NHTSA) (Contract #DTNH22-08-C-00077). The final report, *Parts-Marking and Anti-Theft Devices Technology Study*, was submitted to Maryn by Rutgers University on August 5, 2009.
- ² A dent puller, also known as a slide hammer, is a handheld device comprised of a metal shaft and a heavy sliding handle that screws into or hooks onto a vehicle component such as a door lock or ignition switch and is activated by forcefully sliding the handle along the shaft away from the component to knock the component free of its housing.

- ³ See the Center for Problem Oriented Policing (www.popcenter.org) for more than 1,000 examples of problem-oriented projects by police departments as well as a collection of problem-specific guides and other resources on situational crime prevention.
- ⁴ The NCIC is national database of crime-related information maintained by the FBI, which contains information on stolen vehicles and stolen parts.
- ⁵ The components are (1) engine; (2) transmission; (3) right front fender; (4) left front fender; (5) hood; (6) right front door; (7) left front door; (8) right rear door (if present); (9) left rear door (if present); (10) sliding or cargo door(s); (11) front bumper; (12) rear bumper; (13) right rear quarter panel (passenger cars); (14) left rear quarter panel (passenger cars); (15) right side assembly (MPVs); (16) left side assembly (MPVs); (17) pickup box and/or cargo box light duty trucks; and (18) rear door(s) (both doors in case of double doors), decklid, tailgate, or hatchback (whichever is present) (U.S. Department of Justice, 2009).
- ⁶ Retrieved July 12, 2010, from www.nhtsa.dot.gov/CARS/RULES/IMPORT/newsletters/news034.html.
- ⁷ People who are associated “from the street” have transitory affiliations that are generally not close nor meaningfully connected over time. Their affiliations generally have no continuity and take place in a socially disorganized environment in which accidentally bumping into someone as each person meanders from place to place throughout the day without any social accountability is commonplace. When asked about their acquaintances, people in this environment often reply with statements such as “I know Jim from ‘up the hill’” or “Who are you looking for . . . you mean ‘Skip’ from the block?” or “I know a guy. . . . They call him ‘Mike the jeweler’” (e.g., Bittner, 1967).
- ⁸ For example, predominantly jeeps and pick-up trucks are popular in African countries, and right-side drive vehicles can only be stolen and exported from places like Australia and the United Kingdom since the United States uses left-side drive vehicles.
- ⁹ Retrieved July 12, 2010, from www.seaportsinfo.com/panynj/portfacilities/?page=vehiclefacilities.
- ¹⁰ In the same year, the New Jersey State Police and the Port Authority Police of New York and New Jersey disrupted a multistate auto theft ring that was exporting stolen vehicles through Port Newark (Rieger, 2007; see also Dauler, 1994; Levy, 1994; National Association of Attorneys General, 1979, pp. 6, 50; Onishi, 1995; and Smothers, 1985, implying Port Newark is a perennial favorite port from which organized crime and professional auto thieves export stolen cars).
- ¹¹ For example, in New Jersey, law enforcement can apply specific laws when conducting inspections if chop-shop operations are discovered (*NJSA 2C:20-16, “Operation of Facility for Sale of Stolen Automobile Parts”* and *NJSA 2C:33-12, “Maintaining a Nuisance”*). These laws complement local city ordinances that govern licensing requirements.
- ¹² Retrieved July 12, 2010, from www.nmvtis.gov/NMVTIS_Map.pdf.
- ¹³ For example, the task force concept that was once prevalent in the New York and New Jersey area is not operating as it once did, which hampers regional and interjurisdictional investigations. As of March 13, 2009, the Newark Police Department and the Elizabeth (New Jersey) Police Department—the two municipal police agencies responsible for Port Newark—do not have personnel assigned to U.S. Customs to interdict stolen vehicles.
- ¹⁴ Lojack[®] is secreted in the vehicle, and the vehicle does not bear any outward markings to alert thieves it is Lojack[®] equipped. This is also counter to some theoretical aspects of rational choice. Ayres and Levitt (1998) cite anecdotal evidence from Los Angeles of chop-shop reductions wherein, in that city alone, 53 chop-shops were uncovered by law enforcement using Lojack[®] (p. 61). Panel members from New York City also commented that when Lojack[®] was first introduced in New York, they uncovered chop-shops by following the tracking signal. Soon, car thieves refined their methods and began stashing

stolen cars for 72 hours before taking them to the chop-shop to see if police would locate and recover the car.

- ¹⁵ Lojack[®] is an after-market commercial stolen vehicle recovery system that operates via a hidden radio frequency transceiver located inside the vehicle that, when activated, permits law enforcement authorities to track and locate the vehicle. The panel members believed installing Lojack[®] had some value for patrol officers but was limited due to lack of training and availability. They also stated only a limited number of patrol cars are equipped with Lojack[®] in a given agency, and pairing trained officers with a Lojack[®]-equipped patrol car is not guaranteed. Because patrol officers do not routinely use Lojack[®], there is also a tendency for their skills to erode. When this happens, it is likely officers will simply ignore the system. Also, patrol work is dominated by reactive radio calls, which often preempt Lojack[®] tracking. Lastly, Lojack[®] is not marketed as an anti-theft device; rather, its purpose is a rapid recovery device, and rapid recovery is predicated on the aforementioned reactive nature of police work.

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Emergency Health Communication Interventions for the Hard-to-Reach Homeless

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Every night in the United States approximately 750,000 people experience homelessness (*What to Do When*, 2009). A review of recent literature on homelessness indicates that public health and emergency managers have not adequately addressed the need to communicate with and evacuate and shelter homeless individuals in advance of extreme weather emergencies or disasters. Urban and rural law enforcement agencies have responded to the challenge of developing enhanced strategies for rapidly identifying, locating, sheltering, and evacuating hard-to-reach homeless individuals in advance of severe weather. Law enforcement officers, mental health professionals, and medical practitioners are often the most frequent points of contacts for hard-to-reach homeless individuals. This report discusses and makes recommendations for law enforcement agencies and practitioners to more effectively communicate with, identify, and motivate hard-to-reach rural and urban homeless individuals to evacuate to safe shelter in emergency weather conditions.

The world was shocked by the devastation in southern Louisiana and Mississippi, and by the ongoing failures it exposed at all levels of government. By August 31, 2005, 80% of the City of New Orleans was flooded, and four of the city's protective levees were breached. Although a large percentage of the residents were evacuated, thousands remained stranded in the city. As the city flooded, many who remained in their homes had to swim for their lives or remain trapped in their attics or on their rooftops ("New Timeline," 2005). There was little mention of how the emergency system responded to the safety and evacuation of the homeless population, which included the young, the elderly, the disabled, and the mentally ill.

Defining Homelessness

The numbers of homeless people have increased significantly in the wake of the recent nationwide mortgage and financial crisis. Demographic and health data indicate that the increasing number of homeless persons reflects varied age groups, races, an array of cultures, and multiple health-related problems.

The federally mandated *McKinney-Vento Homeless Education Assistance Act of 2001* defines homelessness and includes the following: living with a friend, relative, or

someone else due to loss of a home or because a home is not affordable; living in a runaway shelter or a homeless youth shelter; living in an emergency, transitional, or domestic violence shelter; residing in substandard housing; living in a car, park, public place, abandoned building, or bus or train station; or children awaiting foster care placement. The definition of *homelessness* expands to include “persons who have nighttime residence in either emergency shelters or public or private spaces not designed for shelter (e.g., streets, parks, or abandoned buildings)” (Berman & West, 1997). Homelessness behavior has also been described as “sleeping in shelters, in abandoned buildings, and in bus and train stations” (Link, Ezra, Stueve, Phelan, Moore, & Struening, 1994); this description does not account for individuals staying with friends and relatives or who reside temporarily in unsafe and unsanitary structures (Larsen, Poortinga, & Hurdle, 2008). The U.S. Department of Housing and Urban Development (HUD) defines two categories of homelessness: (1) individuals who reside in emergency shelters or transitional housing for some period of time and (2) those who are unsheltered and take refuge in places not considered safe for human habitation, including living on the streets, in parks, and in abandoned buildings. HUD identified a distinct category of individuals who are precariously housed or likely to become homeless, usually as a result of economic setbacks (*A Guide to Counting Unsheltered Homeless People*, 2008).

Who Is Homeless?

HUD reported that there were not enough beds to accommodate the homeless in the available shelters in 2007. Approximately 754,000 people were reported to be homeless at any time, but there were only 438,300 available beds in shelters and transitional housing in 2007 (Brubaker, 2007). Recent reports revealed that there are an estimated 1.6 million homeless, based on a January 2008 count in cities and states that reflects 98% of the U.S. population (Department of Housing and Urban Development [HUD], 2007). This estimate includes individuals who have no fixed sleeping quarters, who live outside, or who rely on homeless shelters.

Cities account for approximately 77% of the homeless population, and an estimated 70% of the homeless are individuals living on their own without dependents. Roughly 57% of the homeless requesting shelter reported having been incarcerated, hospitalized, or had spent the night with family or friends. Men accounted for 69% of the homeless estimate. Minorities represented 57%; 55% were of middle-age; and 13% were reported to be veterans (National Coalition for the Homeless, 2006b, 2008).

Families with children are one of the fastest growing segments of the homeless population: “A recent survey of 24 U.S. cities found that in 2005, homeless families with children accounted for 33 percent of the homeless population. Eleven percent of the homeless population is comprised of parents with children; 22% percent are children under the age of 18 with only one parent, and eighty-four percent are single mothers. On average, the homeless mother tends to be in her late 20s” (U.S. Conference of Mayors, 2005), and on average she has two children, usually under the age of 6 (National Coalition for the Homeless, 2006b, 2008).

Health Problems of Homeless Men

Studies by the National Coalition for the Homeless in 2006 found that homeless males experience the following health problems: 40% have substance use disorders,

25% are physically disabled or experience debilitating health conditions, 20% have serious mental illnesses, and 66% are burdened by more than one of these conditions (National Coalition for the Homeless, 2006a, 2006b, 2006c).

Health Issues of Homeless Women

Based on self-reports of problems within the past year, women with children reported the following health issues: 23% experienced problems with alcohol, 27% admitted having problems with drugs, 44% reported experiencing mental health problems (primarily depression, anxiety, and post-traumatic stress disorder), 58% of these women suffered from more than one of the above problems, 67% indicated they had experienced severe childhood physical abuse, 43% reported childhood sexual abuse, and 63% had been victims of severe violence by adult intimate partner(s). The National Coalition for the Homeless (2006b) reported that female homeless veterans constitute 1.6% of the homeless veteran population, a percentage that is increasing.

Economic Factors Contributing to Homelessness

According to the National Coalition for the Homeless (2006c), “two trends are largely responsible for the rise in homelessness over the past 20-25 years: a growing shortage of affordable rental housing and a corresponding increase in poverty.” There is a direct link between homelessness and poverty. If one is poor, he or she is usually unable to pay for housing, food, child care, etc. In 2004, the U.S. Bureau of the Census (2005) reported 12.7% of the population or 37 million people lived in poverty. These statistics reflect an increase of 12.5% or 1.1 million people from 2003.

Severe Weather Planning for the Homeless: A Public Health and Safety Approach

During the severe winter season of 1998-1999, 13 deaths of homeless persons were reported in the Boston metropolitan area. The deaths occurred in environments that exposed the homeless to severe cold weather conditions. The decedents were identified as *rough sleepers* or individuals who would not sleep in designated public shelters (Clope, Milbourne, & Widdowfield, 2001; Shaw, Dolring, & Brimblecombe, 1999). As a result of the high number of winter weather-related homeless mortalities, the Massachusetts Department of Public Health investigated the circumstances of the deaths and reported that all 13 decedents had recent interactions with medical, psychiatric, or substance abuse professionals prior to their deaths (O’Connell, Mattison, Judge, Allen, & Koh, 2005). Of particular importance to law enforcement and public health officials, their deaths had taken place in close physical proximity to their service provider sites. The investigation found that no formal identification or tracking methods of the homeless in Boston had been conducted in advance of the severe winter weather conditions, other than an annual rough head count estimate of the homeless.

The Boston public health investigation included a retrospective epidemiological review of death certificates and available medical data on the 13 deceased homeless persons that revealed the following: 12 of the deceased were males who ranged in ages from 30 to 57; eight were Caucasian, three were African American, and

two were Hispanic. One woman, an African American, was counted among the deceased. Autopsies on 12 of the 13 decedents found chronic alcoholic problems and one case of heroin addiction. The health histories of eight of the 13 decedents reported severe mental illness, and all of the decedents had experienced multiple and chronic medical conditions.

The Boston findings converged with reports from disparate studies from across the United States, Canada, and Europe. A Seattle, Washington, report noted that local autopsied homeless persons suffered from multiple illnesses shortly before their deaths, a finding consistent with national trends (Health Care for the Homeless Network, 2004). A British study on homeless deaths noted that “rough sleepers” had a mortality rate 25 times that of the general population of housed persons (Shaw et al., 1999). In a psychiatric-oriented study, researchers found higher levels of mortality and a failure to recognize and to treat co-morbidity in homeless psychiatric patients (Felkner, Yazel, & Short, 1996). Two separate reports, one from San Francisco (“Homeless Deaths Are Rising in San Francisco,” 1998) and a second from Toronto, Canada (Cheung & Hwang, 2004), indicated lower age mortality rates. The San Francisco report reviewed 125 homeless rough sleeper deaths linked to substance abuse. The average age of the 125 decedents was 42 years. The San Francisco study reported similar findings to that of Boston in that a high percentage of homeless deaths occurred in outdoor environments (“Homeless Deaths Are Rising in San Francisco,” 1998). The Toronto study reported that homeless mortality rates for women under the age of 45 were significantly higher than rates for older homeless women and men (Cheung & Hwang, 2004).

The Department of Homeland Security’s Federal Emergency Management Agency (FEMA) documents provide extensive evidence of plans to respond to populations made homeless by natural and man-made catastrophes. Post Hurricane Katrina, preparedness planning has begun to include “vulnerable” populations such as isolated elderly people and the mobility impaired who remain in their homes. Homeless individuals have also been included and defined as part of a larger population referred to as “transportation deprived” (U.S. Government Accountability Office [GAO], 2006). The U.S. Department of Education emergency response plans for schoolchildren displaced by disasters mandate assurances of food, shelter, clothing, and education, but show no evidence of preventive plans to communicate with and evacuate homeless parents (*McKinney Vento Homeless Education Assistance Act*, 2001).

Communicating Risk to the Homeless

The purpose of emergency risk communication is to effectively reduce and prevent illness, injury, and death; it should also aid communities in getting on with what they were doing, and homeless individuals are not an exception. Research conducted on crisis communication for the Centers for Disease Control and Prevention (CDC) in the aftermath of the September 11, 2001, terrorist attacks indicated that most people “act reasonably” during an emergency (Reynolds, 2002). There may be cause for concern that homeless individuals with behavioral and medical diagnoses could exhibit erratic behavior when required to move to safe shelter in weather emergencies and during evacuation measures, but comparative literature on institutionalized persons suggests a more positive outlook for emergency communication and interaction with the homeless. A

classic myth in emergency planning is that individuals will panic when informed that an emergency requires them to act, but the reverse is often the case. However, the general public, including the homeless, take emergency communication less seriously when messages communicated are not clear or when message content changes frequently. Homeless individuals require clear, compelling, urgent, and simple disaster directives (Clements, 2009).

Locating Urban Rough Sleepers

The tragic lessons learned from the severe winter deaths of the 13 homeless Boston residents led to annual cold weather advisories and police actions for locations where homeless rough sleepers are known to seek refuge during periods of extreme cold. In the Washington metropolitan area, the District of Columbia Metropolitan Police Department, in collaboration with other local governmental and private agencies, now conduct outreach to identify and transport homeless individuals to safe shelters. Similar efforts are seen in Boston where the Emergency Shelter Commission, along with outreach providers, the Boston Police Department, and Emergency Medical Services, collaborate to locate and provide safe shelter for the homeless throughout the winter months (*Mayor's Cold Weather Advisory*, 2007). The District of Columbia Winter Plan for the homeless includes outreach strategies that take into account the potential health problems of the homeless as reported in the Boston, Seattle, and Toronto studies. According to the Washington, DC 2008-2009 Winter Plan, although there were 112 hypothermia alert days in the 2008-2009 winter season, only two deaths related to hypothermia were reported (*The Winter Plan*, 2009). Similar cold weather protocols are in effect in New York City (*Mayor Bloomberg Opens Nine Temporary Warming Centers*, 2007). The urban homeless rely on free urban health centers and social service centers; many are required to report to probation officers. Their geographical range of movement is limited since they are usually on foot and use public transportation. Mapping rough sleeper foot traffic patterns to and from health clinics, soup kitchens, social services, psychological services, and court-mandated or incidental interactions with law enforcement locations provide public health and safety officials with essential information necessary to rapidly reach and remove isolated rough sleepers to safe shelters before extreme weather conditions may prohibit contact.

Locating Rural Rough Sleepers

Obtaining accurate counts of rural homeless individuals may prove to be more vexing than homeless count efforts in the cities. The geographical terrain of rural counties and communities may prohibit close scrutiny and identification of isolated homeless refuges. Flooding, extreme cold, ice storms, and heavy snows present obstacles to contacting isolated homeless individuals. Rural law enforcement personnel are also fewer in number compared to those in urban settings, and personnel use and time may be posted to duty assignments related to poor road conditions and automobile accidents during weather emergencies. In addition, there is a problem of traveling long distances in many rural jurisdictions, which emphasizes the critical need to locate and identify isolated homeless individuals before severe weather conditions occur. Rural law enforcement agencies, in collaboration with rural public health departments and outreach, can map rough sleeper movements to and from health clinics, mental health providers, as well as to food and shelter sources (*Rural Homelessness Counts*, 2009).

The perception that homelessness is an urban, not a rural, problem persists in many rural communities. Rural homeless rough sleepers often seek out of the way and hard to reach refuges to avoid law enforcement, families, or health providers. Rural homeless individuals also experience alcohol and drug-related problems, mental and behavioral health disorders, and physical health problems similar to their urban counterparts (National Alliance to End Homelessness, 2009).

Conclusions and Recommendations

Disaster plans and communication for the homeless should include active participation of homeless individuals who frequent or reside in the immediate areas in which they receive services. It should include trusted brokers, including voluntary and social service organizations that regularly interact with the homeless; these latter groups include physicians, social workers, mental health professionals, shelter personnel, and neighborhood fire and police officers. These recommendations conform to federal recommendations that residents and their service providers should be involved in the development of disaster and communications plans because they provide essential expertise that involve their communities (*ATSDR: A Primer on Health Risk Communication Principles and Practices*, 1999). The U.S. Government Accountability Office (GAO) (2006) recommendations to Congress support the *ATSDR* findings and suggest that emergency plans involve social service providers in emergency response plans since they “have the expertise and ongoing contact with the transportation of disadvantaged populations, and are familiar with their day-to-day and non emergency needs” (p. 10). The report also recommended “regular exercises of emergency response plans in order to test coordination between agencies involved in evacuation and their resources and the integration of social service providers” (p. 10).

Empathic questioning in a dialogic format of homeless individuals by healthcare professionals and law enforcement officers would enhance the assessments of the homeless individual’s functional capacity to act on extreme weather and disaster notification. Inclusion of structured questions crafted to enhance the likelihood of behavior changes have proven successful in assessing patient readiness to act (Feldman & Christensen, 2006). Loosely structured, open-ended probing questions could be developed to (1) ask if the homeless individual understands the risks associated with being exposed to severe weather conditions; (2) if the individual knows how to reduce the risk of exposure in extreme weather or other emergencies; and (3) if the homeless individual has previously taken actions to reduce risks, and if so, the individual could be asked to describe the actions. Posing questions in a manner that shows respect for and honors the survival knowledge and skills of the unsheltered homeless provides a basis for dialogue and establishing trust.

Brief low literacy, printed, video, and verbal emergency communication messages that can be utilized in conjunction with medical interviews, counseling sessions, meal times at homeless shelters, emergency rooms, jails, parks, churches, and wherever the homeless are likely to be found should be developed. Messages should reflect realistic potential local seasonal disasters such as blizzards, spring floods, tornado season, heat waves, and hurricanes; elevated violent criminal activity; and even possible terrorist threats that could endanger the lives of isolated homeless individuals. The Institute of Medicine (IOM) of the National Academies (2004) defines *health literacy* as the “extent to which individuals can

obtain, process, and understand the basic health information and services they need to make appropriate health decisions” (p. 32).

Geographic mapping of indoor and outdoor sleeping areas and high-frequency use areas should be developed and made available to clinicians and law enforcement officers who most often interact with the homeless. Mapping efforts could include informal working relationships between law enforcement and the harder members of the homeless population and could result in more rapid location, notification, and safe sheltering of homeless individuals who are hard-to-reach.

Law enforcement officials should become familiar with the federal mandate required by the *McKinney-Vento Homeless Education Assistance Act of 2001*. Homeless education liaisons are mandated for all school districts. They can help to identify shelters and service providers in their districts and maintain ongoing communication links between the homeless, law enforcement agencies, schools, shelters, and healthcare providers. In addition, liaisons can provide homeless students with language appropriate for the disaster checklists and offer homeless parents an opportunity to participate in developing disaster plans and checklists that target homeless parents and children (*Mayor's Cold Weather Advisory, 2007; McKinney-Vento Homeless Education Assistance Act, 2001*).

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Using Closed Circuit Television for Vulnerable Child Witness Testimony and Related Criminal Law Rules of Evidence: An International Model for Emerging Democratic States

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Introduction

Both the U.S. Constitution's 6th Amendment and the New York State Constitution, Article 1, Section 6, guarantee the right of a criminal defendant to be confronted by the witnesses against him. This has generally been construed to mean confrontation in open court. However, in the case of a vulnerable child witness, 12 years old or younger, procedural protections that are in place for the well-being of the child witness such as the use of closed circuit television have been utilized by various jurisdictions. The issue has arisen as to whether this violates the constitutional protections afforded criminal defendants. This article analyzes the procedures and the constitutionality of these New York state procedures for use of closed circuit television for certain child witnesses under Article 65 of the *New York State Criminal Procedure Law (CPL)*. Criminal justice and social work practitioners of emerging democratic states should examine these provisions to determine the viability of their use when dealing with vulnerable child witnesses. There are evidentiary rules of evidence in the law also designed to give the accused the opportunity for a constitutionally required fair process in criminal proceedings. These are set forth in the section following the specific materials on the use of closed circuit television for vulnerable child witnesses. These should also be considered by criminal justice and social work practitioners of emerging democratic states, which may be broadly construed as those states leaving behind totalitarian ideals such as Iraq, Afghanistan, the former USSR, and possibly Cuba and China.

Article 65 of the *CPL* allows a vulnerable child witness, 12 years of age or younger, to give testimony relating to his or her victimization in a sex offense under New York State Penal Law Article 130¹ (Sexual Misconduct, Rape, Sodomy, and Sexual Abuse) or Section 255.25² (Incest). In any criminal proceeding, other than a grand jury proceeding, the vulnerable child witness is permitted to give his or her testimony from a testimonial room separate from the courtroom by use of a two-way closed circuit television system. In some instances, the testimony may be given out of the physical presence of the defendant in the testimonial room. The constitutionality of the procedure was settled by the U.S. Supreme Court in *Maryland v. Craig* (110 S. Ct. 715 [1990]) and the New York State Court of Appeals in *People v. Cintron* (75 N.Y. 2d 249 [1990]). The *Craig* court found no constitutional violation of the confrontation clause of the 6th Amendment of the U.S. Constitution in the use of one-way closed circuit television systems. In *Cintron*, the Court of Appeals found no facial constitutional violations in the use of two-way closed circuit television

procedures set forth in Article 65. Both decisions, however, stressed the need to demonstrate the specific necessity requiring the use of such procedures.

In order for the procedure to be utilized, the child witness must be declared *vulnerable* by the court, upon *clear and convincing evidence*, that as the result of *extraordinary circumstances* the child witness will suffer *severe mental or emotional harm*³ if required to testify without the use of the two-way closed circuit television procedure. One-way television is not permitted⁴ nor is the court's power to close the courtroom curtailed.⁵

Application Procedures

At least eight days before the date of the proceeding, either party (or the court) may apply to the court on pretrial written motion for an order declaring the child witness vulnerable.⁶ Reasonable notice must be afforded the other party and an opportunity to be heard given.⁷ The document must provide sworn allegations of fact based upon personal knowledge or information and belief⁸ to support the claim. An answer will be filed which may admit or deny the allegations. In addition, it may contain sworn allegations of fact including the rights of the defendant, the need to protect the child witness, and the integrity of the finder of fact. Unless the facts in the motion are conceded, the court *must* hold a hearing to determine the motion. Witnesses may be subpoenaed and examined.⁹ The child witness may not be compelled to testify at the hearing on the motion, and such action shall not be a ground for denying the motion. Prior statements of the child regarding the crimes and attempts to deter the child from testifying are admissible, but alone they may not form the basis of a vulnerability finding.¹⁰

A doctor, psychologist, nurse, or social worker who has treated the child may testify as to the treatment rendered the child without violating any privileged communication, and the court shall examine, in camera, any reports relative thereto. If it deems information material and relevant, the court shall disclose such information to both parties.¹¹ Discovery upon demand is allowed by either party of records, reports, or documents¹² at any time after the motion is made. Prior to the hearing, the district attorney and defense counsel, subject to protective orders, will make known to the other party prior statements of witnesses they intend to call at the hearing and any known records of prior convictions of crime or pending criminal actions.¹³

Extraordinary circumstances¹⁴ that would cause the child witness severe mental or emotional harm may be found by the court when one or more of the following factors (relating to the offense, the child, or the defendant) have been established by clear and convincing evidence¹⁵:

- *The Offense* – The offense was particularly heinous or aggravating circumstances were present¹⁶ or were part of an ongoing course of conduct over an extended period of time.¹⁷
- *The Child* – The child is particularly young or subject to psychological harm due to a condition pre-dating the offense¹⁸; or has previously been the victim of penal law offenses found in Article 130 (Sexual Misconduct, Rape, Sodomy, and Sexual Abuse) or Section 255.25 (Incest)¹⁹; or an expert witness testifies the child

would be particularly susceptible to psychological harm if required to testify in open court or in the physical presence of the defendant.²⁰

- *The Defendant* – The defendant at the time of the offense occupied a position of authority over the child²¹; or used a deadly weapon or instrument in the offense²²; or inflicted serious injury upon the child²³; or threatened physical violence to the child if the child reported the incident²⁴ or the break up of the family relationship of the child and its family if reported²⁵; or is living in the same house as the child or has access to or is providing financial support for the child²⁶; or a threat has been made to a third-party witness on behalf of the defendant.²⁷

The court must consider these and other relevant factors and the relationship between them and the child's vulnerability. If the court is satisfied that the child witness is vulnerable and the defendant's constitutional rights to an impartial jury and confrontation will not be impaired, it may enter an order granting the use of live two-way closed circuit television.²⁸ If the court finds the child will likely suffer severe mental or emotional harm if the defendant was in the same room during the testimony of the child witness, it shall direct the defendant to remain in the courtroom.²⁹

Taking Testimony of the Vulnerable Child Witness

After an order is granted, the testimony of the vulnerable child witness will be taken in a separate testimonial room equipped with closed circuit television equipment. The equipment will transmit the testimony and image of the child witness and the image of all others in the testimonial room, except that of the equipment technician, to the courtroom, which will be equipped with sufficient television monitors to permit viewing by the judge, jury, defendant, and attorneys. The public will also be permitted to view the monitors.³⁰ The image of the jury shall be transmitted to the testimonial room for view of the child witness. When the court order specifies the testimony to be out of the physical presence of the defendant, the image of the defendant shall also be visible to the child witness.³¹ The attorney must also remain in the courtroom unless the court determines presence in the testimonial room will not impede full communication between the defendant and his attorney and will not create an inference adverse to the defendant's interest.³² If the court determines no equipment is available, the procedure may not be used.³³ The testimony of the child witness in the testimonial room will be given as by any other witness and recorded by the court stenographer.³⁴

The courts have decided the state interest in protecting the well-being of child sex victims more than outweighs the minimal infringement of the two-way closed circuit procedure set forth in Article 65 upon the defendant's constitutional rights,³⁵ but only upon an individualized determination that the child is a vulnerable child witness caused by extraordinary circumstances which are factually proven by clear and convincing evidence.³⁶

Relevant Rules of Evidence

Criminal justice and social work practitioners in emerging democratic states should consider, in addition to the above provisions, a comprehensive system of criminal justice rules of evidence designed to protect the constitutional rights of

the accused to a fair trial. Article 60 of the *CPL* contains such a system, including additional provisions regarding children. It sets forth the evidentiary rules to be followed in criminal proceedings.

Evidence Defined

Evidence may be defined as all the means used to prove or disprove a fact in issue. Not all evidence offered by a party may be acceptable to a court. The admissibility of evidence constitutes a legal question, which requires the decision of the court. In accord with the rules of evidence, which constitutes a separate body of law, that which is offered may be found to be admissible or inadmissible. If what is offered as evidence is found to be relevant (related to a fact in issue), material (has proof value relating to a fact in issue), and competent (not otherwise inadmissible according to the rules of evidence), the evidence will be admitted and permitted to be used in the case. The rules of evidence applicable to civil cases are applicable to criminal cases unless otherwise provided by statute or court decision.³⁷

What Witnesses May be Called³⁸

In any criminal proceeding, as a matter of right, each party may call and examine witnesses and cross examine the other party's witnesses. A defendant may testify in his or her own behalf, but failure to do so is not a factor from which any unfavorable inference may be drawn against him or her. The judge or prosecutor may not comment on the defendant's failure to do so. To make such comment would violate the defendant's constitutional right not to be compelled to be a witness against him- or herself. An exception to this rule is that a judge may instruct jurors as to this provision in the judge's discretion if the judge believes it necessary to preclude the inference from being drawn or upon request of the defendant.³⁹

Testimonial Capacity; Evidence Given by Children⁴⁰

Any person may be a witness unless due to mental disease or defect or infancy he does not have sufficient intelligence or capacity to justify reception of his evidence. A witness under 12 years of age is considered an infant and, as such, may not testify under oath unless the court is satisfied he or she understands the nature of an oath. A witness 12 years of age or older, an age considered to be an adult, must testify under oath unless due to mental disease or defect, he or she does not understand the nature of an oath. Such a witness, if the court is satisfied he or she possesses enough intelligence and capacity to justify it, may be permitted to give unsworn testimony. These rules are shown in Table 1.

Table 1. Testimonial Capacity

Witness	Must Testify	Unless
Under 12	Without an oath (unsworn)	Understands oath (sworn)
12 or over	Under oath (sworn)	Does not understand oath (unsworn)

The significance of these rules is that no conviction may be had based solely on unsworn testimony. It must be corroborated by truly independent evidence as to each material fact to which has been testified. Sworn testimony has a greater assurance of truth due to the promises inherent in the oath.⁴¹

Corroboration of Testimony of an Accomplice⁴²

There can be no conviction of a defendant based upon the testimony of an accomplice without corroborative evidence tending to connect the defendant with the commission of the offense. An accomplice is defined as a witness in a criminal action who, according to evidence in the case, may reasonably be considered to have participated in the offense charged or an offense arising out of the same transaction. A witness is considered an accomplice even though he cannot be prosecuted or convicted due to some defense or exemption such as age or immunity. Whether corroboration is sufficient depends on the facts in each case. Corroborative evidence must be truly independent. The reason corroboration is required is that the accomplice cannot be trusted to tell the truth.⁴³ A confession of an accomplice may not be admissible if the defendant has no opportunity to cross examine the maker of the statement at trial. This would be deemed to violate the defendant's confrontation right under the Constitution.

Identification of the Defendant⁴⁴

The prosecutor's case at trial in chief consists of proving beyond a reasonable doubt the elements of the criminal offense charged and that the defendant is the one who committed it. Without such proof, there can be no conviction. Sections 60.25 and 60.30 address the identification of the defendant issue. They set forth the matters an eyewitness may testify to at trial. The procedures governing eyewitness identification are carefully structured because eyewitness testimony is powerful evidence and, if not controlled, could lead to undue prejudice against the defendant in the minds of the jurors. Research has shown it to be frequently faulty. Section 60.30 is utilized when the witness is able to identify the defendant in court after having viewed him at the scene and then, usually, at a police line-up. It allows the witness to testify to the following:

- I saw the defendant (do what he did) at the crime scene.
- I again saw that person on a second occasion (usually the police line-up).
- The defendant is the person I saw on the previous two occasions.

No bolstering of this eyewitness testimony is permitted.

Section 60.25 allows the following testimony by the eyewitness and testimony of a third party to establish the identity of the defendant as the perpetrator of the criminal offense when the eyewitness is unable to identify the defendant in court:

- I saw a person (do what he did) at the crime scene.
- I again saw that person on a second occasion (usually the police line-up).
- I cannot recollect if the defendant is the one I previously saw.

If this eyewitness testimony was not allowed to be bolstered, the identification attempt would fail. Trials may occur months after the event. Memories fade. Appearances change. In this situation, the following may occur:

- Another witness may testify (usually a police officer present at the line-up) that at the line-up the previous witness picked the defendant in this case as the person he saw at the crime scene.

Impeachment of Own Witness by Proof of Prior Contradictory Statement⁴⁵

When a party calls a witness to testify on a material issue of the case, and the witness's testimony tends to disprove the position of the party calling the witness, such party may introduce a prior signed statement or oral statement made under oath by such witness that contradicts the witness's testimony. The witnesses prior contradictory statement may only be introduced for impeachment purposes, and the court must so instruct the jurors. If the prior contradictory statement does not tend to disprove the position of the party who called the witness, it may not be introduced in evidence and it may not be used to refresh the recollection of the witness in such a way that discloses its content to the trier of facts.

Proof of Previous Conviction, When Allowed⁴⁶

Any witness, including a defendant, may be properly asked if he was previously convicted of a specific offense or any offense. If he denies or equivocates, the party may independently prove such conviction. If a witness testifies as to the good character of the defendant, the people may introduce evidence of a conviction that tends to negate the trait about which is being testified. The issue of whether or not a previous conviction of a defendant may be brought out will be decided by the judge. The judge must balance the probative value of such evidence against the danger of creating unfair prejudice against the defendant. If the previous conviction would tend to indicate a propensity to commit the type of crime for which the defendant is charged, it may not be admitted unless the intent of its use is to prove motive, intent, absence of mistake, accident, or common scheme or plan. The people may prove a previous conviction if it is an essential element of the present charge unless the defendant admits to it in a special proceeding. In that event, no mention of it may be made at the trial.⁴⁷

Admissibility of Evidence of Victim's Sexual Conduct in Sex Offense Cases⁴⁸

Evidence of the victim's sexual conduct in Penal Law Article 130 cases (i.e., Rape, Sodomy, and Sexual Abuse) shall not be admissible unless such evidence

- tends to prove victim's prior sexual encounter with the defendant.
- tends to prove victim's prior conviction of Penal Law Section 230 (Prostitution) within three years prior to this alleged offense.
- rebuts people's evidence of chastity of the victim (no sexual activity) over a given period of time.
- rebuts people's evidence that the accused is the cause of the victim's pregnancy, disease, or the source of semen found in the victim.

- is determined by the court to be relevant and material and in the interest of justice after an in-camera hearing on proof offered by the defendant.

This section is designed to preclude the defense from cross-examining the female victim in such matters so as to delve into sexual aspects of the victim's life not believed to be relevant to the charge at hand. A defense to forcible sex crimes may be consent of the victim or creation of a reasonable doubt that the defendant was the perpetrator. These rules are designed to limit invasions of the victim's privacy but at the same time permit the introduction of evidence by the defendant in his attempt to defend himself against the charge.

Use of Anatomically Correct Dolls⁴⁹

Any person under 16 years of age may, in the discretion of the court, use an anatomically correct doll in testifying in a criminal proceeding for a violation of Penal Law, Article 130, 260, or Section 255.25 (Rape, Sodomy, Sexual Abuse, Offenses Against Children, or Incest). Children of tender years may not be able to testify specifically as to the facts of an offense due to lack of knowledge of the names of the various parts of the sexual anatomy or embarrassment. The doll may be used by the child to point to that part of the body which was involved in the sexual act.

Admissibility of Statements of Defendants⁵⁰

Written or oral confessions, admissions, or exculpatory statements made by a defendant are inadmissible as evidence against him or her if involuntarily made. *Involuntarily made* means gotten from the defendant

- by any person by use of physical force or threat of use of physical force against the defendant or any person.
- through the use of undue conduct or pressure which impaired the defendant's ability to decide to make a statement or not.
- by a public servant or one acting at his direction by means of a promise that creates a substantial risk that the defendant may falsely incriminate himself in violation of his or her constitutional right.

Involuntariness is a legal question to be answered by the judge, but on motion of the defendant, the jury may decide the issue. The constitutional rights to due process and not to be compelled to be a witness against oneself are protected by this rule.

Statements of Defendants; Corroboration⁵¹

A defendant may not be convicted solely on his or her confession or admissions. Corroboration in the form of additional proof that the criminal offense has been committed must be shown.

Psychiatric Testimony in Certain Cases⁵²

When the defendant claims the affirmative defense of lack of criminal responsibility due to mental disease or defect, the burden of proof of such defense lies with the

defendant by a preponderance of evidence. The defendant's proof will consist of expert witness testimony from a psychiatrist or licensed psychologist concerning the defendant's mental state at the time of the commission of the offense. The expert witness must be allowed to testify as to the following:

- The nature of his examination
- His diagnosis
- His opinion as to the defendant's ability to know or appreciate the nature and consequences of his act or its wrongfulness due to mental condition (this constitutes the legally recognized mental state that is assessed in reference to culpability for one's acts)

The defendant's statements to the psychiatrist or psychologist during the course of the examination are inadmissible as proof except as to the issue of mental disease or defect. The privileged communication regarding statements of a patient to doctor or psychologist is not a bar to the doctor's testimony as to the affirmative defense. The court must instruct the jurors as to these provisions and of the fact that they may not consider such statements in determining whether or not the defendant committed the act constituting the criminal offense charged.

Certificates Concerning Judgments of Conviction and Fingerprints⁵³

Criminal court certificates stating a person has been convicted of a criminal offense and reports of government custodians of fingerprint records certifying the fingerprints of a defendant are the same as those of a person previously convicted of a criminal offense may be entered into evidence and are presumptive evidence of previous convictions of crime. There are occasions when a previous conviction must be proven in a trial. Without the above provision, the clerk of the court or a representative of the identification section would be required to appear in court to testify as to the above fact. Certified copies of the records may be used instead.

Chemical Test Evidence⁵⁴

If the defendant is charged with more than one count of driving while intoxicated in the same indictment, chemical test evidence of intoxication admitted into evidence regarding one count may be received in evidence regarding the remaining counts. This eliminates the necessity of relitigating the admissibility of such evidence on the subsequent counts.

The provisions of Article 60 set forth special rules relating to the application of the CPL. It must be remembered that there is a separate body of law, the law of evidence, that is also applicable. All the rules have been developed in order to try to assure truth in the fact-finding process, a fair trial, and that justice may be done.

Standards of Proof⁵⁵

There are a number of standards of proof in law utilized to describe the amount and kind of evidence required to establish the basis for different legal conclusions. Article 70 speaks to three important concepts within the parameters of standard of proof. It defines the terms *legally sufficient evidence* and *reasonable cause to believe a*

person has committed an offense, and it sets forth the standard of proof required for a trial verdict of conviction—*guilt beyond a reasonable doubt*. Standards of proof relate to the kind of and/or the quantity or quality of facts, circumstances, or information (evidence) which may be relied upon to form the basis for decisions such as arrest, search, charging, or conviction, and they differ in this regard, depending upon the impact upon the liberty of a person. For example, it takes less to arrest than to indict and more to convict than to indict.

Legally sufficient evidence is defined as “competent evidence, which if accepted as true, would establish every element of an offense charged, and the defendant’s commission thereof, except that such evidence is not legally sufficient when corroboration required by law is absent.”⁵⁶

The term is synonymous with the term *prima facie case*.⁵⁷ Thus, legally sufficient evidence may be explained as relevant, and material evidence, which if uncontradicted or explained (accepted as true), would be sufficient to sustain a decision to arrest or a conviction; however, if other evidence to the contrary was introduced (no longer accepted as necessarily true) or if required corroboration was absent, the relevant and material evidence would not be considered legally sufficient. In addition, the term *competent evidence* rules out the use of inadmissible evidence, such as hearsay, in determining if a given set of facts and circumstances constitutes legally sufficient evidence.

Reasonable cause to believe a person has committed an offense is defined as “existing when evidence or information which appears reliable discloses facts or circumstances, which are collectively of such weight and persuasiveness as to convince a person of ordinary intelligence, judgment, and experience that it is reasonably likely that such offense was committed and that such person committed it.”⁵⁸

Except as otherwise provided in the *CPL*, such apparently reliable evidence may include or consist of hearsay evidence. For example, an officer may take into account hearsay evidence in order to determine if reasonable cause exists to arrest a person, but a grand jury may not include hearsay evidence to determine whether there is reasonable cause to believe a person committed an offense exists in order to find an indictment since the statute does not permit its use for such purpose.⁵⁹

A fundamental difference between legally sufficient evidence and reasonable cause to believe does not take into account the quality or quantity of evidence present or its persuasiveness, whereas the latter deals with these factors.

Reasonable cause is also synonymous with the federal constitutional standard of probable cause.⁶⁰

Guilt beyond a reasonable doubt, the standard of proof set forth in Article 70.20, is not defined in the statute. It merely states that no conviction by verdict (after trial) is valid unless based upon trial evidence, which is legally sufficient, and it establishes beyond a reasonable doubt every element of the offense, and the defendant’s commission thereof.

The guilt beyond a reasonable doubt standard of proof is extremely important. It has been declared to be a fundamental right under the due process clause of the 14th

Amendment to the U.S. Constitution⁶¹ and recognized as such by New York State.⁶² It is also a very complex and at times ambiguous concept. One of the problems is that the standard must be applied in the context of the various factual situations present in differing crimes. Despite this fact, it is important to have a general understanding of the meaning of the standard. Judges must address this problem as part of their charge to juries prior to their deliberations on the evidence in an attempt to reach a verdict. Some general understandings may be found in case law. Each of us must be able to understand and define the concept of guilt beyond a reasonable doubt. It has been defined in different ways by different jurists and scholars in an effort to achieve understanding. It may be defined as that amount of articulable facts and circumstances that would establish beyond a doubt a reasonable person could give for having the guilt of a person charged with crime.

Such a definition arises from a review of cases dealing with the issue. For example: It is an actual doubt you are conscious of after going over in your mind the entire case, giving consideration to all the testimony and every part of it. If you then feel uncertain and not fully convinced that the defendant is guilty and believe you are acting in a reasonable manner, and you believe that a reasonable man in any matter of like importance would hesitate to act because of such doubt as you are conscious of having, that is a reasonable doubt of which the defendant is entitled to have the benefit.⁶³

The foundation for the finding of guilt may not be based on conjecture or suspicion but only on facts and inferences which common human experience would lead a reasonable man, putting his mind to it, to accept.⁶⁴ A reasonable doubt is one which arises from the evidence and its character, or from the absence of satisfactory evidence, and is such a doubt as a reasonable man has a right to entertain after a fair review and consideration of all the evidence.⁶⁵ At a criminal trial, the burden is on the people to prove every material element of the crime charged as beyond a reasonable doubt.⁶⁶

The prosecution's burden to establish guilt beyond a reasonable doubt extends to every issue raised at trial, including rebuttal of the defendant's defense.⁶⁷ The reasonable doubt rule is a rule of evidence which deals with the quantum of proof necessary to convict.⁶⁸

And finally, the identification of the defendant must be proved beyond a reasonable doubt.⁶⁹ These are the elements that must be understood in order to grasp the meaning of the all important standard, guilt beyond a reasonable doubt.

Endnotes

¹ New York Penal Law, Article 130, defines the crimes of sexual misconduct, rape, sodomy, and sexual abuse.

² New York Penal Law, Section 255.25, defines the crime of incest.

³ CPL Sec. 65.10 subd. 1.

⁴ CPL Sec. 65.10 subd. 2.

⁵ CPL Sec. 65.10 subd. 3.

⁶ CPL Sec. 65.20 subd. 10. At any time, if the court believes the child witness is vulnerable, the judge may invoke the procedure as if it was requested by either party upon pretrial motion.

- ⁷ CPL Sec. 65.20 subd. 1, 2.
- ⁸ CPL Sec. 65.20 subd. 3.
- ⁹ CPL Sec. 65.20 subd. 5.
- ¹⁰ CPL Sec. 65.20 subd. 6.
- ¹¹ CPL Sec. 65.20 subd. 7a.
- ¹² CPL Sec. 65.20 subd. 7b.
- ¹³ CPL Sec. 65.20 subd. 8; Sec. 240.45.
- ¹⁴ *People v. Costa*, 554 N.Y.S. 2d 930 (1990). Extraordinary circumstances must be found.
- ¹⁵ CPL Sec. 65.20 subd. 9a.
- ¹⁶ CPL Sec. 65.20 subd. 9a.
- ¹⁷ CPL Sec. 65.20 subd. 9d.
- ¹⁸ CPL Sec. 65.20 subd. 9b.
- ¹⁹ CPL Sec. 65.20 subd. 9k.
- ²⁰ CPL Sec. 65.20 subd. 9l.
- ²¹ CPL Sec. 65.20 subd. 9c.
- ²² CPL Sec. 65.20 subd. 9e.
- ²³ CPL Sec. 65.20 subd. 9f.
- ²⁴ CPL Sec. 65.20 subd. 9f.
- ²⁵ CPL Sec. 65.20 subd. 9h.
- ²⁶ CPL Sec. 65.20 subd. 9j.
- ²⁷ CPL Sec. 65.20 subd. 9i.
- ²⁸ CPL Sec. 65.20 subd. 11.
- ²⁹ CPL Sec. 65.20 subd. 12.
- ³⁰ CPL Sec. 65.20 subd. 1.
- ³¹ CPL Sec. 65.20 subd. 2.
- ³² CPL Sec. 65.20 subd. 5.
- ³³ CPL Sec. 65.20 subd. 4.
- ³⁴ CPL Sec. 65.20 subd. 8.
- ³⁵ *People v. Algarin*, 498 N.Y.S. 2d 977 (1986).
- ³⁶ *People v. Logan*, 535 N.Y.S. 2d 322 (1988).
- ³⁷ CPL Sec. 60.10.
- ³⁸ CPL Sec. 60.15.
- ³⁹ *People v. Grice*, 474 N.Y.S. 2d 152 (1984).
- ⁴⁰ CPL Sec. 60.20.
- ⁴¹ *People v. Parks*, 41 N.Y. 2d 36 (1976).
- ⁴² CPL Sec. 60.22.
- ⁴³ *People v. Hudson*, 54 N.Y. 2d 233 (1980).
- ⁴⁴ CPL Sec. 60.25, 60.30.
- ⁴⁵ CPL Sec. 60.35.
- ⁴⁶ CPL Sec. 60.40.
- ⁴⁷ CPL Sec. 200.60.
- ⁴⁸ CPL Sec. 60.42.
- ⁴⁹ CPL Sec. 60.44.
- ⁵⁰ CPL Sec. 60.45.
- ⁵¹ CPL Sec. 60.50.
- ⁵² CPL Sec. 60.55.
- ⁵³ CPL Sec. 60.60.
- ⁵⁴ CPL Sec. 60.75.
- ⁵⁵ CPL Sec. 70.00.
- ⁵⁶ CPL Sec. 70.10.
- ⁵⁷ *People v. Anderson*, 344 N.Y.S. 2d 15 (1973).

- ⁵⁸ CPL Sec. 70.10.
- ⁵⁹ CPL Sec. 190.65 subd. 1.
- ⁶⁰ *People v. Johnson*, 66 N.Y. 2d 398 (1985).
- ⁶¹ *In re Winship*, 397 U.S. 358 (1970).
- ⁶² *People v. DiManno*, 182 N.Y.S. 2d 926 (1959).
- ⁶³ *People v. Insogna*, 281 N.Y.S. 2d 124 (1967).
- ⁶⁴ *People v. Pena*, 50 N.Y. 2d 400 (1980).
- ⁶⁵ *People v. Friedland*, 37 N.Y.S. 974 (1986).
- ⁶⁶ *People v. Guarino*, 391 N.Y.S. 2d 699 (1977).
- ⁶⁷ *People v. Butts*, 201 N.Y.S. 2d 926 (1960).
- ⁶⁸ *People v. CeCillis*, 14 N.Y. 2d 203 (1964).
- ⁶⁹ *People v. Coleman*, 471 N.Y.S. 2d 380 (1983).

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The Relationship Between the Economy and Crime: The Real and Perceived Effects of the Recent Recession on Crime Rates in the United States

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As most leading economic indicators confirm, the U.S. economy has been in a downward spiral since the latter half of the past decade. Lured by artificially low interest rates, the number of unqualified home buyers soared in the early 2000s. Soon thereafter, delinquencies on subprime interest loans caused a collapse in the housing market, resulting in an unprecedented number of foreclosures (Sowell, 2009). As unemployment and inflation rose and mortgage lenders and auto manufacturers declared bankruptcy, the federal government took extraordinary action, instituting an economic stimulus package for the American public and an economic bailout plan for such financial stalwarts as Bear Stearns, Fannie Mae, Freddie Mac, American International Group (AIG), the Auto Industry, and the Bank of America (Nankin, Umansky, Kjellman, & Klein, 2009). In October 2008, Congress passed the Emergency Economic Stabilization Act, authorizing the Department of Treasury to spend \$700 billion through the Troubled Asset Relief Program, which was designed to support companies in financial distress (Nankin et al., 2009).

In scholarly literature and public discourse, the economy and crime have been inextricably linked. Prevailing wisdom suggests that poor economic conditions lead to increases in crime, especially property and other financially driven crimes. This notion has great intuitive appeal but only mixed empirical support (Piehl, 1998). So, what exactly is the relationship between economic factors and crime rates? How has the present economic crisis affected crime rates and law enforcement's capacity to combat crime? How can police strategies be modified during economic downturns?

This article explores these questions. First, the nature and extent of the current economic crisis is discussed. Second, the anticipated and actual effects of financial cutbacks on law enforcement resources are described. Next, the relationship between the state of the economy and crime trends in the United States, including the most recent data from the FBI on reported crime during the first half of 2009, is examined. Finally, the long-running decline in crime and the factors that most likely account for the steady drop in offenses is explained.

Recession of the 2000s

Since 2007, the United States has experienced one of the worst economic recessions in its history. The current recession is likely to become the most serious post-war economic collapse on record, affecting millions of people worldwide (Foldvary, 2007). At the end of federal fiscal year 2010 (September 2009), the federal deficit

was \$1.4 trillion or 10% of the Gross Domestic Product, which is the highest peacetime deficit in history (Wesbury & Stein, 2009). In a national poll conducted in December 2009, 80% of Americans believed that the economy is in poor shape (CNNMoney.com). That same month, the U.S. Census Bureau and the Department of Housing and Urban Development (HUD) (2009) reported that home sales in November 2009 fell more than 11% below the previous month's sales.

Subprime Mortgages

The recent financial crisis stems from several factors. Specifically, the crisis was caused by the ill-advised monetary policies of the U.S. Government and the reckless lending practices of private financial institutions. For example, the deregulation and securitization of real estate mortgages in the United States involved packaging housing debt and issuing new securities—a highly risky and expensive strategy for financing assets (Mishkin, 2008). Mortgage-backed securities in the United States were marketed around the world. The broad-based credit boom launched a global speculative frenzy in real estate and equities, which made the already unbridled lending practices even more widespread (Roubini, 2009).

Subprime loan losses in 2007 triggered the housing crisis and exposed risky loan practices and over-inflated asset prices. The roots of the crisis can be traced directly to the subprime lending activities of Fannie Mae and Freddie Mac, which are government-sponsored mortgaging entities. Mounting loan losses and the fall of Lehman Brothers on September 15, 2008, precipitated a major panic in the interbank loan market. As share and housing prices declined, many large and well-established investment and commercial banks in the United States and Europe suffered substantial losses, and several faced bankruptcy, resulting in a massive public bailout plan, which was released publicly on September 21, 2008 (Finch, 2009).

Price Increases

This precarious financial situation was exacerbated by sharp increases in oil and food prices. During the 2000s, prices exploded globally, especially in commodities and housing, marking an end to the commodities recession of 1980 to 2000. In 2008, the prices of many commodities, for example, oil and food, rose to such high levels that they caused serious economic setbacks, threatening stagflation (i.e., inflation and economic stagnation) and a reversal of economic globalization (Rubin, 2008).

In January 2008, oil prices surpassed \$100 per barrel for the first time and were one of many of the price milestones passed that year. In July 2008, oil peaked at \$147.30 a barrel, and a gallon of gasoline cost more than \$4 throughout most of the United States. These high prices caused a dramatic drop in demand, and by the end of 2008, oil prices had fallen below \$35 a barrel (McMahon, 2009). As a result of widespread diminished demand, the prices of most other commodities also fell dramatically, causing a worldwide recession in the second half of 2008 (Caballero, Farhi, & Gourinchas, 2008).

Inflation

Inflation is caused by a sustained or continuous increase in general price levels and a sustained or continuous decrease in the value of money (Labonte & Makinen, 2008). In February 2008, global inflation reached a historic peak, and for many nations, domestic

inflation levels reached 10- to 20-year highs. Most experts attributed the current rise in inflation to excess money supply around the globe, speculation in commodities, agricultural failure, the rising cost of imports from China, and the increasing demand for food and commodities in rapidly growing markets (Joshi, 2008).

Housing Bubble

The recent housing bubble was characterized by rapid increases in the value of real property, which reached unprecedented levels relative to incomes, price-to-rent ratios, and other economic measures of affordability (Roberts, 2008). These financial conditions were followed by a steep decline in home values (also known as the *housing price crash*), forcing many home owners to experience negative equity in their properties (i.e., a mortgage debt higher than the current value of the property) (Roberts, 2008). The Central Bank of the United States, led by the former Federal Reserve Chairman Alan Greenspan, kept interest rates very low in order to blunt the recession of the early 2000s. The ensuing malinvestment and overconsumption of investors and consumers created a housing bubble that ultimately burst and helped exacerbate the present financial crisis (Sowell, 2009). In short, the housing crisis, as well as the sudden and necessary deleveraging and cutbacks by consumers, businesses, and banks, contributed to the recession (Roberts, 2008).

By 2007, real estate bubbles had occurred in many nations, including the United States, Canada, Bulgaria, Greece, United Kingdom, Poland, Australia, Italy, Spain, Russia, France, Israel, Norway, China, South Korea, Sweden, Finland, Argentina, India, Romania, and Ukraine (Sowell, 2009). As noted above, the housing bubble was caused by several factors, including low interest rates, lax lending standards, and intense speculative fever (Sowell, 2009); however, the housing bubble might also have been related to the stock market or dot-com bubble of the 1990s. Powered by the rise of Internet sites in particular and the technology industry in general, the dot-com bubble popped to near-devastating effect in 2001. Many dot-com companies collapsed when the bubble burst, and investors lost substantial sums of money, which contributed to a mild economic recession in the early 2000s.

Unemployment

In December 2007, the U.S. unemployment rate was 4.9% (Bureau of Labor Statistics [BLS], 2009c), and in two years it more than doubled to 10.2% (BLS, 2009a). From 2007 to 2008, the number of unemployed people increased from 6.1 million to 21.2 million due to the weak labor market conditions of the 2007 recession (BLS, 2009b). A broader measure of unemployment (taking into account marginally attached workers, those employed part-time for economic reasons, and discouraged workers) was 16.3% (BLS, 2009a). According to the BLS (2009b), the number of people unemployed relative to the number of people who worked or looked for work during the year (the work-experience unemployment rate) increased from 9.5% in 2007 to 13.2% in 2008, which suggested that the employment situation was quite dire for a much larger number of Americans than previously recognized.

The Economy and Crime

Though the connection between crime and the economy is complicated (Piehl, 1998), several hypotheses suggest that the economy and crime are linked. For

example, crime has always been more prevalent in economically depressed inner-city neighborhoods than in wealthy suburbs, which leads to the assumption that crime rates decrease with growing affluence and increase with declining income and prosperity (Wilson, 2009). People in the lowest socioeconomic strata also have the smallest “safety nets,” such as personal savings and family resources, and are therefore more likely to resort to crime during periods of economic strife (Li, 2009).

Absolute poverty might drive people to commit crime in order to survive. The need for food, shelter, and clothing is a strong incentive to engage in criminal behavior in the absence of options to earn legitimate income. Similarly, people with the lowest relative earning power might choose illegal activity because it provides much greater income potential than legitimate employment, especially during a recession. Further, unemployed people have more unstructured time to seek and take advantage of illegal pursuits than those who are tied to the office or the factory, which are sources of income and mechanisms of social control (Piehl, 1998). As Piehl observed, “steady employment is incompatible with intensive criminal activity” (p. 305).

Many police officials and criminologists agree that a recession usually leads to an uptick in property crimes. Others argue, however, that crime is triggered by a variety of sociological and psychological variables and can never be adequately explained by any single factor (Levitt, 2004). Hence, most experts contend that crime is determined by multiple factors, some of which (e.g., drug addiction and chronic poverty) trump the economy in terms of their impact on crime rates (Cramer, 2009).

History of Crime and Economic Changes

The relationship between crime and the economy has mostly defied or confounded common sense. For example, studies suggest that during the Great Depression of the 1930s, crime rates fell, despite a 25% unemployment rate; indeed, crime rates declined by one-third between 1934 and 1938 (Piehl, 1998). Surely, if the economic rationale of crime is tenable, then crime rates should have exploded in those years (Lehrer, 2000), but they did not. Prohibition was a far more violent time than the Great Depression (Dewan, 2009). Further, there is little evidence suggesting that prosperous economic times have had a significantly preventative effect on crime. Specifically, some of the worst years for crime increases were in the late 1950s, a time during which hourly wages rose steadily. Between 1957 and 1958, for example, per capita income increased 8% while crime climbed 15% (Lehrer, 2000). In an economic boom, criminal opportunities abound (there is more to steal); more pockets are full and more homes are empty (and ripe for burglary) because more people are working (Piehl, 1998).

From the 1960s through the 1990s, crime ebbed and flowed mostly in directions that were inversely related to economic conditions. For example, in the 1960s, the country experienced significant prosperity and low unemployment, yet the national homicide rate rose by 43%. Crime rates increased every year between 1955 and 1972 as the U.S. economy surged, with only a brief, mild recession in the early 1960s. By the early 1970s, crime rates had increased more than 140%. Murder rates had risen 70%, rapes more than doubled, and auto theft nearly tripled from a decade earlier (Lehrer, 2000).

In the early 1980s, the association between the economy and crime again confounded the experts. Specifically, crime rates fell in nearly all categories between 1982 and 1984, even though wages declined for low-income workers during the same

period. Likewise, wages rose for low-income workers between 1988 and 1990, while the nation experienced higher crime rates (Lehrer, 2000). The homicide rate declined in the 1980s as the economy struggled with high interest rates and a steep increase in business bankruptcies. In the 1990s, the murder rate fell by 39%, while unemployment also declined (Wilson, 2009). As Wilson aptly put it, “So, can the economy help explain fluctuations in crime? Sometimes yes, sometimes no” (p. 2).

Despite dire predictions, experts suggest that the recession’s direct effect on crime rates is largely indeterminate (Lehrer, 2000) or modest at best (Levitt, 2004). It seems more likely that crime rates might cause unemployment than vice versa (Wilson, 2009). In this argument, young men choose to leave school or the workforce in order to sell drugs or commit robberies. They abandon legitimate jobs (and increase the unemployment rate) to pursue illegal opportunities.

The Current Recession’s Effects on Law Enforcement and Crime

Law Enforcement Expectations

Common sense and conventional wisdom offer sundry explanations for why crime should increase during an economic crisis, supporting the widely held belief that crime rates soar amid economic slumps. At first glance, this notion seems perfectly logical—crime rates should drop during prosperous economic times and rise during bleak ones. As more people lost their jobs and savings due to the current declining economy, numerous law enforcement pundits predicted increases in crime. In particular, they suggested that income-generating crimes, such as thefts, car break-ins, and burglaries, would climb with the number of unemployed (Hauser & Baker, 2008). They also expected sharp increases in insurance fraud by car owners who abandoned their vehicles and then reported them stolen in order to claim insurance money illegally (Cramer, 2009).

Other experts maintained that consumer desperation, anger, and frustration might also cause an increase in domestic violence and a greater willingness to buy products, such as iPods and GPS devices, from pawn shops instead of retail stores, which fuels the underground economy (Cramer, 2009). On the black market, a dispute between a buyer and seller, which would ordinarily be handled by the Better Business Bureau, might instead be settled through violence. Further, the greater number of abandoned and boarded-up homes—a consequence of the subprime mortgage crisis—could create an environment that encourages more crime as neighborhoods are faced with growing signs of disorder and decay, which increase fear of crime and apathy among residents who then view themselves as less able to combat crime collectively (Hauser & Baker, 2008).

Financial Retrenchment

At a time when economic conditions were tough and crime was projected to increase, law enforcement officials across the country were reporting budget reductions—some severe (Li, 2009). The recession placed pressure on local governments to create cost-cutting devices such as strategies for saving additional dollars and plans to prioritize the spending of their already scarce financial resources. In a perfect-storm scenario, recession-related budget cuts in law enforcement funding and personnel were expected to increase crime rates by creating vacancies in the police force and more fear in the community because fewer police officers are seen on the streets (Osterman, 2008).

Although the connections between budget reductions and crime rates are debatable, financial cuts in law enforcement budgets were predicted to cause serious threats to public safety. Law enforcement officials worried that reductions in police budgets could be problematic, particularly if the economic dip became protracted and more people became unemployed (Li, 2009). In the next couple of years, police budgets are expected to remain flat or to decline even further, hampering the ability of departments to assign officers to extended tours, to place officers on overtime during peak crime hours, or to hire new officers to replenish the ranks of those retired or disabled (Osterman, 2008).

Currently, many police departments are downsizing. For example, 200 police officers recently faced layoffs in Boston for the first time since 1982 (Slack & Cramer, 2009), and Atlanta police officers are now taking days off without pay every two weeks (Pugh, 2009). In Prince William County, Virginia, a raft of housing foreclosures sharply diminished income from property taxes and forced the police department to lay off 568 officers. The department's budget might be slashed further, and, consequently, more police officers might lose their jobs in the future (Osterman, 2008).

Because of the current budget crisis, Washington, DC, is allowing up to 80% of the city's inmates to qualify for early release (Emerling, 2009). Proposals to release inmates early have been discussed or implemented in several states, including Illinois, Kentucky, and California (Emerling, 2009). Thus, more ex-offenders—who are at high risk for recidivism—could be on the street with fewer police officers on patrol. As Chuck Wexler of the Police Executive Research Forum noted, “[P]olice departments are going to have to do more with less” (Osterman, 2008, p. 3).

PERF Survey

In late January 2009, the Police Executive Research Forum (PERF), a Washington-based law enforcement organization, released the results of a study that explored the effects of the faltering national economy on local police departments' budgets and operations. The study also solicited police executives' views about how the economic doldrums have affected crime levels. Of the 233 law enforcement agencies surveyed, which generally comprised the country's larger police departments, 44% reported a rise in certain types of crime, which they attributed to the worsening economy. Specifically, 39% reported increases in robberies; 32% in burglaries, such as incidents in which appliances and other equipment were stolen from vacant homes; and 40% in thefts, such as incidents in which GPS devices were stolen from cars and other “opportunistic” crimes.

Nearly two-thirds of the police executives indicated that they planned to cut their budgets. On average, agencies were planning a 6.24% reduction in their overall funding, and several others had already reduced their budgets. Of those who reported that they were planning cuts, 88% indicated that their mayor, city council, or another governing authority had informed them to expect reductions. The PERF survey (2009) also asked questions about how chiefs were planning to apportion their budget cuts among various operations or functions. The survey showed the highest level of agreement (4.39 on a scale of 1 to 5) with the statement, “Sworn officer positions should be the last thing cut in the budget.”

In general, respondents reported they would never cut sworn positions to supplement their training, equipment, or technology budgets; however, when

survey respondents were asked how they would allocate cuts in their overall budgets, they indicated that, on average, 28% of the dollars would be extracted from funding for sworn personnel; another 14% would be extracted from funding for civilian personnel; and 11% would be extracted from overtime funding. In other words, for every dollar that police departments were planning to cut from their total budgets, 53¢ would be personnel-related—sworn, civilian, or overtime coverage. The survey asked police executives about any plans for reorganizing their departments in order to save money. The results showed the following:

- 43% reported that they would rely increasingly on less-costly civilian employees rather than sworn officers.
- 36% reported that they would discontinue or delay police responses to calls for service by encouraging residents to file reports regarding minor crimes online rather than in-person to an officer.
- 29% reported that they would discontinue special units such as street crimes units, narcotics task forces, and community policing units.
- 16% reported that they would reduce public access hours at district stations.

Today's Crime Rates

During the 2007 recession, law enforcement authorities reported not only a substantial increase in crime overall but also a change in the types of crime being reported such as an increase in the number of scams promising cash prizes. Various cities and towns, such as Suffolk County, Massachusetts, also reported an increase in drug arrests and forged prescriptions, which led officials to speculate that the pain of the economic doldrums encouraged people to escape through substance abuse (Cramer, 2009). In addition, law enforcement experts noted that financial pressures can increase the risk of domestic violence, such as intimate partner violence and child abuse. The stress of unemployment and its resultant loss of control could trigger domestic battery among abusers who feel frustrated and emasculated, especially because lack of employment could lead them to spend more time at home and have increased contact with their intimate partners. With fewer options to leave home and a dearth of economic opportunities, intimate partners and their children become more susceptible to domestic violence (Cramer, 2009).

Despite the reports of law enforcement authorities, in most large cities, crime has diminished during the recent recession. For example, the Los Angeles Police Department reported that, in 2008, crime in the city fell for the sixth consecutive year; at a time when the economy was reeling and unemployment was rising, serious crime in the city dropped 2.5% compared with the previous year (Wilson, 2009). Crime in Los Angeles County fell again in 2009 in spite of rising unemployment and the troubled economy, continuing a decline that reduced the number of homicides to levels that have not been seen since the 1960s (Wilson, 2009).

Murder declined by 17% in the City of Los Angeles and by nearly 25% in the dozens of cities and unincorporated communities patrolled by the Los Angeles County Sheriff's Department. Within the city's boundaries, 302 people had been killed by the end of 2009—62 fewer than in the same period in 2008. Together, law enforcement agencies in and around Los Angeles had investigated approximately 500 murders through the final week of December 2009—a sharp drop in homicides from the more than 1,500 murders reported in 1992, the year of the Los Angeles riots (Wilson, 2009).

These totals are a fraction of the killings that occurred in the late 1980s and early 1990s, when Los Angeles County had a million fewer residents and was caught between a crack cocaine epidemic and escalating gang violence. Another prime metric of violence, the number of gunshots fired, was also down in 2009. In addition, the number of property crimes in Los Angeles, such as burglary and theft, declined generally this past year, including an unexpected but significant decline in the number of stolen automobiles (Rubin & Winton, 2009). The trend extended to other parts of Southern California and several major cities around the country (Rubin & Winton, 2009).

Federal Bureau of Investigation (FBI) crime data for the first half of 2009 show that crime fell across the country in most major categories (FBI, 2009). These figures are based on records supplied to the FBI by more than 11,700 police and law enforcement agencies, comparing reported crime in the first six months of this year with the first six months of last year (Barrett, 2009). As noted above, crime experts had forecasted that robberies and property offenses might be affected by the country's economic woes. In contrast, FBI (2009) data demonstrated that reported violent crime dropped by 4.4% and reported property crime fell by 6.1% in 2009's first six months compared with the previous year. Crime rates have not been this low since the 1960s and are nowhere near the peak that they reached in the early 1990s. Simply put, these data challenge the perception that crime increases during economic slumps.

The FBI (2009) reported that all four Part I violent crimes decreased nationally in the first six months of 2009: murder by 10%, robbery by 6.5%, forcible rape by 3.3%, and aggravated assault by 3.2%. Violent crime was down by 7% in cities with a population of more than one million but up by 1.7% in cities with populations of 10,000 to 24,000. Arson declined more than 8%. Among property crimes nationally, motor vehicle theft dropped 18.7%, larceny-theft decreased 5.3%, and burglary declined 2.5%. The FBI data for early 2009 suggest that the crime declines witnessed in 2008 are not merely continuing but also accelerating. In 2008, the same data showed a nearly 4% drop in murder and manslaughter and an overall drop in violent crime of 1.9% compared with 2007 statistics.

According to FBI (2009) figures, reports of violent crime fell 7% in cities with one million or more people. The FBI's data for New York City showed 204 reported murders in the first half of 2009 compared with 252 in the same period during the previous year. According to the data, Phoenix, Arizona, reported ten fewer killings, dropping from 86 in the first half of 2008 to 76 in the first half of 2009. In Chicago, the homicide rate fell 12%. Data varied from city to city but collectively pointed to less crime in every major category.

Not all cities experienced crime decreases, however. In towns with 10,000 to 25,000 people, violent crime increased by 1.7%. Further, burglaries increased by 9% in Houston, 12% in San Jose, and 25% in San Antonio during the first half of 2009 compared with the same period in 2008. In Seattle, robberies increased by 28% and homicides by 23%. Still, continued nationwide declines were unexpected amid the throes of a deepening recession (FBI, 2009).

Explanations for the Recent Reductions in Crime

In an attempt to explain the recent reductions in crime, scholars have suggested a number of factors. The best explanations surpass the scope of annual changes by

focusing on several years of crime data in order to reveal discernible and stable trends. As a rule of thumb, double-digit increases or decreases in crime are most noteworthy as are changes in the most serious crimes, which are captured in the FBI's Part I Index Crimes of the *Uniform Crime Report (UCR)*. Although the *UCR* data have limitations (e.g., they include only reported and recorded crimes), they provide a national assessment of crime, using standard definitions of crimes and data to chart changes over the past several decades in the major categories of violent and property crimes.

Like most complex social phenomena, crime is affected by numerous factors. When crime rates vary, no one factor alone can adequately account for those changes. Hence, "the economy" has never been sufficient, in itself, to fully explain significant increases or decreases in crime. In their efforts to account for criminal behavior, criminologists draw on several disciplines and theoretical perspectives such as economics, psychology, sociology, and social ecology. Leading analysts have explained the latest downward trend in crime, including the continued decline over the past decade, by referring to seven major factors: drug markets, policing, target hardening, the federal economic stimulus, declining criminal opportunities, the prison explosion, and the aging population.

Drug Markets

Past recessions have coincided with expansions in illicit drug markets. During the late 1960s (a time of economic prosperity) and 1970s (a time of economic woes), the heroin trade spiked in major urban areas. Unprecedented amounts of heroin flooded the streets in major urban areas across the United States in order to meet the increasing demand for the drug among returning Vietnam veterans and a new crop of users from middle-class America. Crack entered the drug scene in the late 1980s and early 1990s (another time of economic woes), providing a cheap and accessible substitute for powder cocaine and tremendous profits for drug sellers whose customers returned repeatedly because of the drug's ephemeral effects (Rosenfeld, 2009).

Expansions in the drug trade were accompanied by precipitous increases in crime for two reasons. First, addiction is a crime intensifier. A mountain of research shows evidence that addicts commit significantly more income-generating crimes, at a significantly higher rate, during periods of active use than during periods of sobriety; their purpose is to obtain money for the purchase of illegal drugs through the commission of such crimes as burglary, robbery, theft, and shoplifting (Lurigio & Swartz, 1999). Second, the bulk of the violence associated with drugs stems from competition to secure drug markets, typically among rival gangs and especially following the introduction of a new drug or a substantial increase in the availability of an old drug. The violence of the early 1970s and 1990s, which occurred during the infusion of large amounts of heroin and crack cocaine, respectively, is known as the systemic violence of the drug trade (Lurigio & Swartz, 1999). During the current recession, no comparable growth occurred in drug markets or in drug-market competition, and no dramatic influx appeared in the availability (or novelty) of illegal drugs, not even methamphetamine (Rosenfeld, 2009)

Policing

One of the basic and most touted features of the Crime Bill of 1994 was the allocation of resources to support the deployment of an additional 100,000 police on U.S. streets. Police officers have increased in sheer numbers since the 1980s,

and their growing presence in communities might have contributed to the decline in crime rates. Increasing the size of police departments can lead to more arrests, deter crime, stop crimes in progress, and encourage cooperation from residents in solving crimes and neighborhood problems that are correlated with street crime (e.g., signs of social and physical disorder).

Not merely the number of police on the street, but also the way in which they are managed and deployed, could account for the greater success in controlling and reducing crime (Rosenfeld, 2009; Wilson, 2009). Specifically, policing has become smarter as well as more inclusive and preventative in nature. With respect to smartness, police departments are using crime mapping (“putting cops on the dots”; Range, 2000, p. 5) and other technologies to generate data that help them make more informed decisions about police strategies and tactics.

Police have improved their ability to use data to combat crime and to respond quickly to calls for service. Big cities’ technology-driven, “smart policing” efforts play a significant role in reducing national crime rates. The use of real-time computer data to target high-crime areas has helped police officers to slow illegal activity. Hence, apart from the economy, crime rates are affected by rigorous police programs such as advanced computerized systems for tracking crime, management styles that hold precinct commanders accountable for controlling crime in their districts, and an aggressive policy of searching people on the streets for guns (Wilson, 2009).

More effective policing might explain why New York and Los Angeles continue to experience impressive declines in crime rates. The implementation of police accountability systems, the use of real-time crime information, and hotspot enforcement are becoming *de rigueur* in most urban police departments and have spread to suburban areas and contributed to crime decreases elsewhere (Corman & Mocan, 2002). High-tech policing is costly, though, and its widespread adoption might be slowed by the shrinking of municipal budgets.

With respect to inclusiveness, police departments are practicing community policing, which has been the prevailing model of policing since the 1990s and is based on the principle that crime reduction stems from the co-production of safety; that is, police and residents must cooperate to solve crimes and protect the streets. By employing new strategies for stifling disorder and working with community groups, the police have become more effective and efficient at fighting crime.

With respect to prevention, there is broken-windows policing, an offshoot of community policing that involves order maintenance activities that prevent minor crimes from escalating, removes from the streets rule breakers who are high-frequency offenders, and leads to the confiscation of weapons and the acquisition of intelligence about weapons trafficking. Broken-windows policing also makes streets safer and more orderly, which increases the use of public thoroughfares. Having more public guardians on the street brings more eyes and ears that are available to observe and report crime and disorder and makes for safer places to shop, socialize, and drive. Finally, police departments have also begun to interact directly with known criminal groups, warning them that violence by any member of the group will result in a harsh crackdown on all. The technique leads to more self-policing within the group and, in the 1990s, resulted in the “Boston Miracle,” which has since expanded to hundreds of municipalities around the country (Kennedy, Piehl, & Braga, 1996).

Attracting national attention, the so-called Boston Miracle refers to the precipitous drop in youth homicides, which occurred in Boston in the 1990s. After reaching a peak of 152 murders in 1990, with 73 victims aged 24 or younger, the number of youth homicides dropped to an average of fewer than 45 between 1991 and 1995, plummeted to 18 in 1996, and, fell to 0 in 1999. Experts contend that the Boston Miracle resulted from an unprecedented, joint initiative that involved the Boston Police Department, neighborhood groups, and clergy, as well as the U.S. Attorney and District Attorney's Offices. The Boston Miracle used the persuasive power of the church to discourage youth from joining gangs and problem-oriented policing to quell gang disputes before they erupted into fatal shootings (Winship, 2002).

Target Hardening

An unheralded feature of the recent crime decline is the double-digit drop in motor vehicle thefts over the past few years. As newer model automobiles with electronic locking and ignition systems continue to displace older vehicles, substantial decreases in motor vehicle thefts are likely to continue. Stealing cars also holds less cachet than it once did for juveniles who stole cars for a thrill or to prove their mettle. Security locking systems installed on most models, as well as more high-tech deterrents such as car recovery devices that use the Global Positioning System, make stealing cars riskier and less profitable for would-be automobile thieves (Rosenfeld, 2009; Wilson, 2009).

Economic Stimulus

Economic stimulus spending, particularly the extension of unemployment benefits, has cushioned the impact of the recession on millions of Americans. Although stimulus spending might help explain the absence of recent increases in crime, it cannot explain why crime rates have declined steadily over several years. Hence, some relief will be provided by a \$4B stimulus package earmarked for law enforcement. In fact, those communities in the 1930s that spent more on public works programs had lower crime rates than those that spent less on such measures, which could be an auspicious portent for the current federal government's stimulus package. During the summer of 2009, the U.S. Justice Department released its first billion dollars in stimulus money to local law enforcement agencies (Wilson, 2009).

Declining Criminal Opportunities

The reduction of criminal opportunities can help to explain why crime rates fall when economic conditions deteriorate. Layoffs have resulted in an increase in the number of people remaining at home and serving as "guardians" against crime in their neighborhoods. When unemployment rates are high, more people are at home during daylight hours, and burglars prefer to avoid occupied households. With more people home from work, it becomes harder for burglars to break into a home or apartment without being noticed by neighbors. In addition, people who are at home and unemployed are more likely to call police tip-lines. Further, when people do venture out, they carry less cash and other valuables, making them less attractive targets for street robbers. Fewer people walk on the streets, toting shopping bags and using ATM machines—all of which serves to decrease the number of potential targets for robbers (Wilson, 2009).

Prison Population

Skyrocketing imprisonment rates contributed to crime declines during the 1990s. The increase in imprisonment, however, has slowed in recent years, and many states are implementing early release programs in the face of budget constraints. If the number of inmates leaving prison begins to outpace the number entering, and post-release supervision and services remain unchanged, then crime rates are likely to increase. Although the deterrent effect of imprisonment is questionable—research suggests that it does and does not reduce crime—the incapacitation effect of incarceration is patent and undeniable.

People who are incarcerated, especially high-rate offenders who are locked up for lengthy periods, are unable to commit crimes in the community. Those who are on probation or parole supervision are subject to behavioral restrictions that can constrain their ability and opportunity to commit crimes. Therefore, the ever-expanding net of the correctional system has lowered the crime rate by restraining the capacities and criminal prospects of would-be offenders. In addition, lengthy terms in prison produce an older population of return offenders who are less criminally inclined (Donohue & Siegelman, 1998).

Age of Population

As the over-50 population grows, crime drops, while other social costs, such as health care, go up. The American population is getting older, and older people commit fewer crimes. The number of young men aged 16 to 24—the group that commits about half of all crime—declined in the early 1990s. Age is a prime predictor of crime rates. When the average or median age of the population decreases—especially the critical mass of people between the ages of 16 and 24—and reaches a threshold that significantly tilts the balance of the age distribution in the direction of young people, then crime invariably rises, as it did in the 1960s. The inverse is also true; that is, as the age of the population increases, crime invariably decreases as it did in the 2000s. Simply put, as the average age of the population gets younger, crime goes up; as it gets older, crime goes down (Levitt, 1999).

Summary and Conclusions

Common sense suggests that economic difficulties breed crime and violence that can overrun neighborhoods, threaten families, and ruin lives; however, research on crime and the economy has generated inconsistent results. Periods of prosperity in the United States have been associated with both increases and decreases in crime. The economy is one of many factors that has been hypothesized to affect crime at the individual and macro levels. Other factors include the age of the general population, levels of police resources, incarceration rates, and the amounts of opportunities to commit crimes. Levitt (2004) argues that the most reliable and empirically supported reasons for the recent reductions in crime are the increase in the number of police officers; the explosion of the prison population; the resolution of the crack cocaine epidemic; and the legalization of abortion, which led to fewer unwanted pregnancies and, therefore, fewer children at risk for delinquency and future criminality.

Across the country, the most recent recession has elicited considerable trepidation among police authorities and members of the public who were bracing for a crime

wave that apparently (and thankfully) never arrived. The media's emphasis on crime, especially the most violent and most unusual occurrences of crime, fuels the public's fear of crime and leads to the common misperception that crime is much higher and more serious than the levels that are documented in official crime statistics and victimization surveys. The public's belief that crime is increasing can actually result in more crime by way of the following vicious cycle: fear of crime keeps residents off the streets as public guardians, which encourages neighborhood disorder and public apathy, which, in turn, encourages more crime and so on (Felson, 2002). Residents also believe that an increase in the diversity of their neighborhoods is associated with higher levels of disorder and crime, despite the lack of evidence to support such beliefs (Keohane, 2010). In addition, the *pessimism bias*, which was identified by sociologists, encourages people to believe that yesterday was always "brighter," "better," "happier," and "safer" than today, even in the face of objective reality that suggests otherwise (Hagerty, 2003). Hence, citizens should be educated about local and national crime statistics in an accessible manner that is comprehensible in light of people's general difficulty with understanding rates and other types of aggregate statistics (Fong & Lurigio, 1986).

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Spatial Patterns and Characteristics of Residential Burglary Incidents

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Introduction

Spatially descriptive analyses in the current paper are conducted to examine the distribution and pattern of residential burglary incidents. There are two rationales behind such a spatial approach. First, there have been substantial qualitative and quantitative analyses of residential burglary in literature (Bennett & Wright, 1984; Conklin & Bittner, 1973; Cromwell, Olson, & Avary, 1991; Hakim & Buck, 1991; LeBeau & Vincent, 1998; O'Shea, 2000; Rengert & Wasilchick, 1985, 2000; Reppetto, 1974; Wright & Decker, 1994), but few spatial analyses have been conducted. Such an analysis may produce more useful knowledge in explaining the distribution and pattern of residential burglary and its relationship to such variables as demographic, socioeconomic, and housing characteristics in the spatial dimension.

Second, even simple spatial analyses for residential burglary have rarely been conducted in literature. There is a lack of research on this topic in general, and the existing studies are based on observational and anthropological approaches with little quantitative analyses. Spatially analytical approaches have not been used to examine the distribution and pattern of residential burglary.

Two separate approaches are used in the current study. The first method is based on the single-house address level. All addresses of residential burglary incidents from 2001 to 2005 are pinpointed on the city's street map annually, utilizing the Geographic Information System (GIS) computer software, *ArcGIS*. The unit of analysis for this first approach is the individual address of houses victimized by residential burglary.

The second approach is based on the census-tract level. All 90 census tracts in Newark, New Jersey, were identified, and all addresses of residential burglary incidents were geocoded with about a 93% address-matching rate, on average, in the GIS geocoding process. Then, all the addresses were regrouped according to the 90 census tracts. Thus, each census tract was associated with the total number of addresses with residential burglary in that tract. This information was used to calculate the rates of residential burglary to examine patterns and change over the years.

Several spatial statistical techniques (e.g., point maps, density maps, and centrophraphic statistics maps) were employed to examine the spatial relationships of residential burglary with selective demographic, socioeconomic, and housing characteristic variables.

There are two primary purposes for these spatially descriptive analyses. First, they are used to visualize the distribution of residential burglary on the city map as well as to identify the high and low concentration areas of residential burglary for further analyses. Second, they are used to link the findings of brief quantitative analyses to spatial patterns. In other words, to answer the question, "Are the

statistically significant variables from various correlation and regression statistics also consistent with spatial distributions and patterns?" The assumption is that it will be consistent because of issues of reliability and validity.

Data Source

Two primary data sources were utilized for this study: (1) the database of residential burglary incidents from the Newark, New Jersey, Police Department; and (2) U.S. Census data. The police department has kept and maintained a database of both commercial and residential burglary records, including the address of all incidents. In addition, U.S. Census data, in conjunction with the residential burglary incidents, are necessary for further spatial analyses. Since it is a public information source and can be accessed and retrieved, a new database for the city was built, including population, income levels, number of households, poverty rate, unemployment rate, ethnicity, housing characteristics, etc. For further spatial analyses, the information was reanalyzed according to 90 geographical census tracts (see Tables 1 and 2) (for other years' rates, see Appendix 1).

All addresses from residential burglary were geocoded. Geocoding is the process of linking an address with its map coordinates (Boba, 2005). The success rates of the geocoding for this study are in excess of 93%, where an acceptable minimum is 85% (Ratcliffe, 2001).

Table 1. Total Numbers of Population, Household, and Residential Burglary in Newark, New Jersey

	2001	2002	2003	2004	2005
Population estimated ¹	272,537	250,782	262,504	251,352	254,217
Household estimated ¹	99,989	96,150	102,128	100,690	101,040
Residential burglary ²	2,621	2,570	2,331	2,254	1,568

Sources: ¹The U.S. Census; ²The Newark, New Jersey, Police Department

City-Level Spatial Patterns of Residential Burglary

As the first step of the descriptive spatial analysis, a city boundary around the city is set to map residential burglary incidents. Point maps and density maps are then added. The most common method for displaying geographic patterns of residential burglary is point mapping, which places points representing burglary residences onto a map. On the other hand, a density map visualizes the distribution of crime and identifies highly concentrated areas by creating a smooth continuous surface to represent the density or volume of the events distributed across the city. A density map is based on the point map to display higher and/or lower concentrated areas within the city boundary.

Table 2. Rates of Residential Burglary Incidents¹ for 90 Census Tracts in Newark, New Jersey, 2001

Tract ID	Resid. Burglary										
1	0.013	16	0.029	31	0.129	46	0.024	61	0.018	76	0.009
2	0.022	17	0.056	32	0.037	47	0.009	62	0.009	77	0.056
3	0.014	18	0.053	33	0.033	48	0.040	63	0.015	78	0.026
4	0.016	19	0.021	34	0.047	49	0.011	64	0.015	79	0.025
5	0.018	20	0.037	35	0.036	50	0.035	65	0.066	80	0.008
6	0.011	21	0.009	36	0.023	51	0.027	66	0.034	81	0.029
7	0.023	22	0.017	37	0.037	52	0.019	67	0.028	82	0.047
8	0.011	23	0.034	38	0.029	53	0.104	68	0.015	83	0.040
9	0.015	24	0.025	39	0.021	54	0.023	69	0.013	84	0.011
10	0.029	25	0.020	40	0.032	55	0.020	70	0.013	85	0.008
11	0.035	26	0.047	41	0.026	56	0.021	71	0.018	86	0.033
12	0.041	27	0.047	42	0.019	57	0.014	72	0.074	87	0.014
13	0.027	28	0.055	43	0.026	58	0.026	73	0.022	88	0.452
14	0.014	29	0.050	44	0.014	59	0.045	74	0.011	89	0.026
15	0.029	30	0.037	45	0.029	60	0.027	75	0.109	90	0.020

¹ The rate of residential burglary incidents is calculated by dividing the number of burglary incidents by the number of housing units in each census tract.

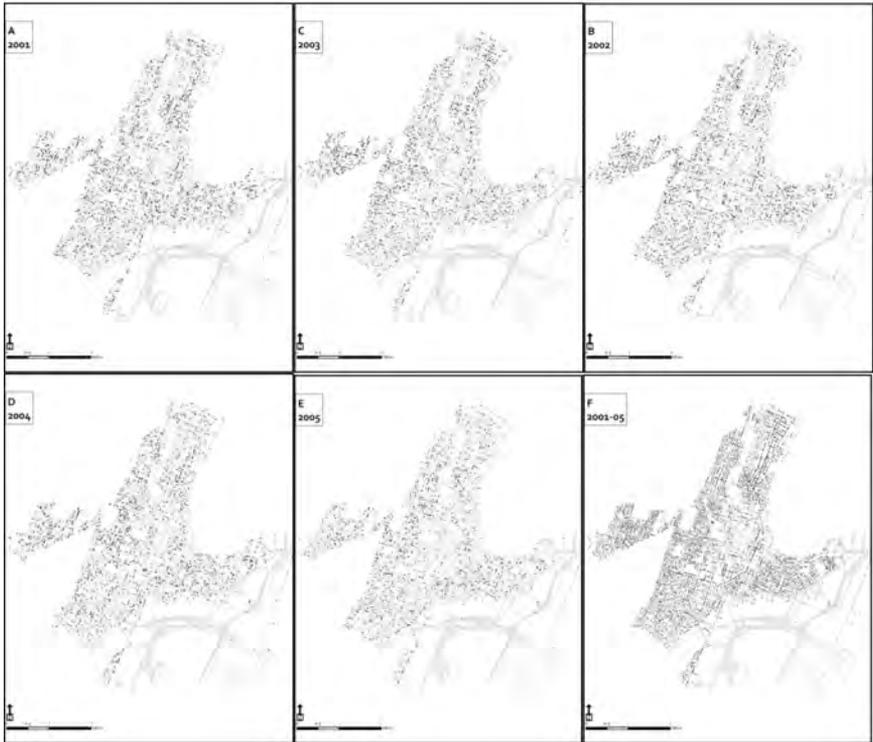
Point Maps of Residential Burglary

A series of point maps is displayed to see the distributions of residential burglary incidents. All the geocoded addresses of residential burglary incidents are pinpointed through the geocoding process with a coordinate system using *ArcGIS* computer software. Figure 1 displays examples of the point maps showing residential burglary incidents on the city street map. These maps show the overall distribution of all residential burglary incidents. At first glance, residential burglary is distributed citywide across many of the streets and street blocks in the city. It seems that residential burglary affects most parts of the city over the years.

However, these maps do not provide all the information and insight about spatial distributions and patterns that are needed. Although these maps are useful to see both a general distribution of residential burglary and some indication of concentrated street blocks of residential burglary incidents, they still do not demonstrate a discernible spatial pattern over the years or illustrate higher or lower concentrated areas.

Two issues can account for these problems. First, the large volume of data that are used for the maps makes it difficult to visualize and interpret accurate patterns in the spatial distribution. Second, certain locations on the map appear to be a single point with a single crime incident but may, in fact, have multiple events overlapped at the same address because multiple events at the same location have been geocoded by the same coordinating system. Thus, when only small numbers of events are displayed on a map, crime point maps may provide a snapshot-level view. But if the primary purpose of these maps is to conduct further in-depth analysis and identify highly concentrated areas of distribution, crime pinpoint maps may not be the best visually descriptive example or the best map design to interpret and discuss patterns. It is imperative to use advanced mapping techniques that are more accurate and sensitive to crime data to examine the distribution of these variables and to discuss the patterns of residential burglary.

Figure 1. Point Maps for Residential Burglary Annually in Newark, New Jersey



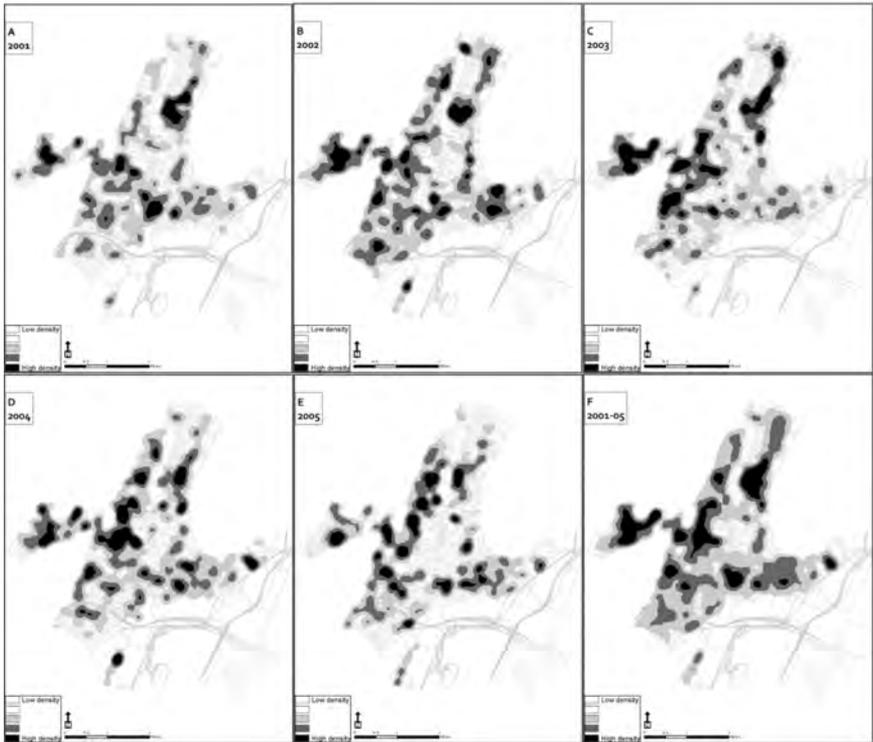
Density Maps of Residential Burglary

In this section, a series of density maps is presented to examine the distributions of residential burglary incidents. Density maps are based on the data from the point maps above. While point maps pinpointed all addresses of residential burglary incidents on the city street map, density maps display spatial concentrations of these variables.

Figure 2 displays several gradually concentrated areas of residential burglary using a density function in *ArcGIS*. The darker the hues, the more highly concentrated the areas. As discussed previously, the simple and overlaid point maps show that residential burglary is distributed citywide; however, the density maps in Figure 2 illustrate that residential burglary is not evenly distributed throughout the city. For example, several concentrated areas exist across the city, except for sections in the central and northern parts of the city.

In particular, several concentrated areas are located alongside the northern boundary of the city. Though many of the streets and city blocks have been affected by residential burglary, there are distinguishable areas or neighborhoods with more burglary incidents than others, implying that the distribution and pattern of residential burglary is not necessarily evenly distributed across the city and that it is influenced by a neighborhood's conditions such as demographic, socioeconomic, and housing characteristics.

Figure 2. Density Maps of Residential Burglary Annually in the City



As discussed above, in comparison with point maps, density maps allow for an easier interpretation of where residential burglary incidents in a spatial dimension cluster. The maps also more succinctly recognize the location, relative scale, and spatial distribution of highly concentrated areas compared with the point maps. Thus, this mapping method can produce more accurate results when identifying the location and orientation of areas of concentration.

However, certain issues with density crime mapping are worth discussing. For example, density maps are a smoothing technique for which a research radius determines the level of smoothing. This can result in these variables being smoothed over and into areas where no residential burglary incidents have occurred, and, thus, exaggerate the distribution of residential burglary.

In addition, a map showing the distribution of data as a density estimation can have various numbers of highly concentrated areas, depending on the ranges selected by the researcher. The source of the data for residential burglary remains the same, but the number of highly concentrated areas can vary. Thus, such spatially analytical maps should be incorporated with other variables (e.g., demographic, socioeconomic, and housing characteristics) at a microlevel for more sensitive and reliable analyses.

Furthermore, the degrees of the density levels for residential burglary incidents, which are illustrated by hue intensity, are based on rates, rather than actual counts. For example, the two densest spots of burglary do not necessarily have the same number of points. The actual number of points in the densest spot may have larger numbers, or smaller, than other spots of residential burglary. Thus, it is important to understand the shortcomings of density maps. At the same time, it is necessary to do spatial statistical tests on the distributions of those dense areas.

Spatial Centrographic Analyses for Residential Burglary

Geographic statistics can unveil the distribution and characteristics of features (e.g., residential burglary and alarm installation) such as their geographic centers, the extent to which the features are clustered or dispersed around the center, or whether the features trend in a particular direction. The primary purpose of using this spatial centrographic statistic is to examine a graphic representation and dispersion of residential burglary incidents.

Measures of Spatial Centrality for Residential Burglary

Finding the geographic center of a group of features is useful for tracking change in the distribution. Three measures of such a center are used: (1) mean center, (2) median center, and (3) central feature. The underlying concepts and assumptions of these features are quite similar to those in quantitative statistics (e.g., mean, mode, and median). For example, the *mean center* is the average x-coordinate and y-coordinate of all the features in the region the study covers. The *median center* is the location that has the shortest total distance to all features in the study area, being calculated using the straight-line distance from the x-coordinate and y-coordinate. The *central feature* is the feature that is the shortest total distance from all other features (Mitchell, 2005). Among these three, the mean center, which represents the most centrally located feature, is primarily used.

Figure 3 shows the geographic mean centers of residential burglary incidents on the city map. It illustrates that the mean centers of residential burglary reside in the center of the city, showing that each spatial mean center for burglary is closely clustered in one proximate geographic area.

The distribution of mean centers is a reflection of the overall distribution of residential burglary incidents. The areas with more residential burglary incidents were more likely to be located in the western and central sections of the city as well as in the eastern section of the city. It seems that the yearly spatial mean centers are located at the exact midpoint of the city map. Such locations indicate that, as observed in Figure 1's point maps, overall, residential burglary incidents are widely spread out throughout the city. Though spatially concentrated areas of residential burglary incidents exist, many streets and street blocks are affected by residential burglary.

It should be noted that, like with any quantitative statistic, one or more outliers can skew the mean center or median center. An outlier may be a feature that is located incorrectly—especially if the street address was incorrectly geocoded. Furthermore, multiple events at a single location are stored as individual features in the GIS database.

Figure 3. Mean Centers of Residential Burglary Annually in the City



Measures of Spatial Dispersion for Residential Burglary

Measuring the compactness of distribution provides a single value representing the dispersion of features around a geographic center. There are two measures for spatial compactness of any distribution: (1) standard distance deviation and (2) standard deviational ellipse. *Standard distance deviation* is the spatial equivalent of the standard deviation, a statistic mainly employed to describe the dispersal of values around the mean. The difference lies in that the standard distance deviation is a distance, so the compactness can be represented on a map by drawing a circle with the radius equal to the value. The value can be used to compare two or more distributions or to compare the same type of feature over different time periods (e.g., daytime and nighttime

residential burglaries). The standard distance deviation value is expressed in the units in which the features are represented. The greater the standard distance value, the greater the distance varies from the average, and the more widely dispersed the features are around the center (Chainey & Ratcliffe, 2005; Mitchell, 2005).

On the other hand, the *standard deviational ellipse* measures the orientation and direction of spatial compactness. It can be thought of as a directional equivalent of the standard distance. The ellipse measures the standard deviation of the features from the mean center on the x-coordinates and the y-coordinates individually. An ellipse can be drawn using two, or more, standard deviations. An ellipse calculated using one standard deviation shows where features are concentrated. An ellipse calculated using two or more standard deviations shows where most of the features occur (Mitchell, 2005).

Thus, the standard deviational ellipse provides an accurate examination if the distribution of features is elongated and, hence, has a particular orientation. It gives a more accurate picture than using the standard distance circle because the result is based on a statistical calculation rather than a visual interpretation of map output. The information also can be used in comparing the distributions of categories of features and for comparing a single feature at different times (Chainey & Ratcliffe, 2005). These two analytical tools can be incorporated in conjunction with the mean centers.

Maps in Figure 4 present the standard distance deviations and standard deviational ellipses of residential burglary incidents, together with the mean centers. Both the standard distances and ellipses share the same spatial point as mean centers and use one standard deviation distance from the mean, which contains about 68% of the addresses of residential burglary incidents. The standard distance deviation circle of residential burglary shows that the distribution of it tends to be dispersed from the mean center of it, indicating that an equal measure of the standard distance from the mean center for all residential burglary incidents are less concentrated.

Regarding the standard deviational ellipse in maps in Figure 4, ellipses for residential burglary show an explicit orientation, both inclining toward the east because distributions for residential burglary incidents in the city have dense areas toward the upper northeastern and lower southwestern sections, which elongate the standard deviation distances into the current shapes.

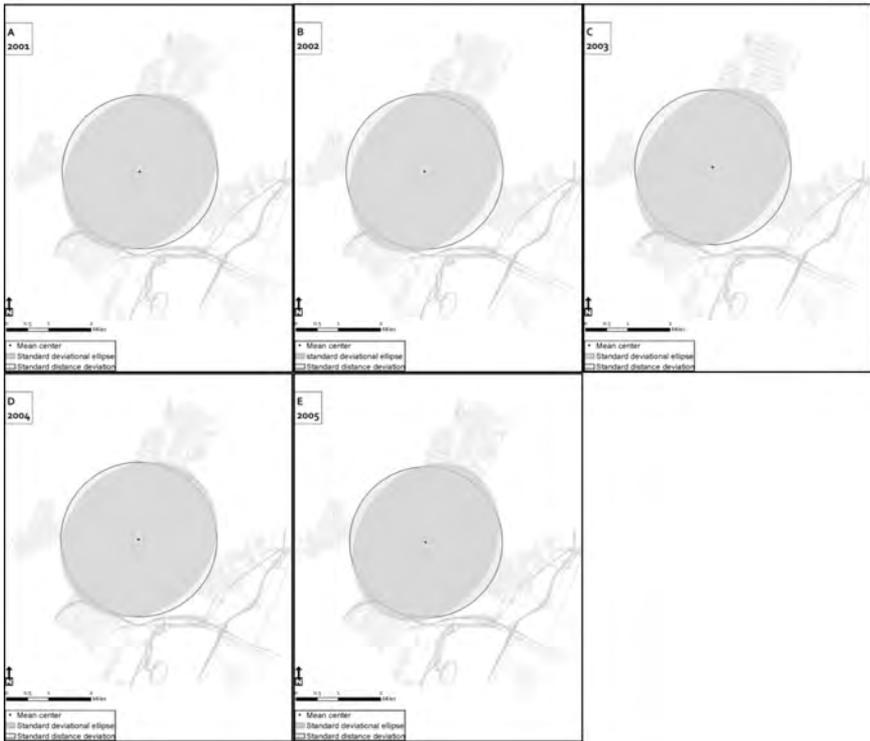
Regarding the size of ellipses of residential burglary distributions, the ellipse shape for residential burglary incidents is somehow a wider oval. This observation indicates that dense areas of residential burglary reside not only in the western section of the city but also in the eastern section of the city. In other words, the distribution of residential burglary incidents is wider spread. It stretches the oval shape of the standard deviational ellipse for residential burglary wider toward the western and eastern boundaries of the city.

Figure 4 clearly demonstrates that the standard deviational ellipse is more sensitive to the geographic distributions of residential burglary than the standard distance deviation. Thus, its measures provide better information and understanding about geographic distributions and patterns of these features.

Two issues should be mentioned. First, the standard distance deviation lacks directional focus (Chainey & Ratcliffe, 2005). Irrespective of the spread of the points in a particular direction, the standard distance is an equal measure in every direction. A more useful type of global dispersal measure is the standard deviational ellipse. Second, both the standard distance deviation and the standard deviational ellipse are affected by outliers. In particular, regarding the orientation or size of the ellipse, the latter can be skewed by a few outlying features and, thus, not provide an accurate picture of the distribution.

Furthermore, though those analyses are useful and necessary to examine spatial patterns and characteristics for residential burglary, they have been analyzed and discussed without statistical tests. In other words, without a statistical approach for the spatial data, the geographic observations presented and discussed previously cannot be confirmed, and the null hypotheses for the spatial pattern analysis cannot be tested. Thus, it is imperative to conduct spatially statistical tests. But even with these limitations and issues, standard deviational ellipses are an improvement over standard distance deviations in terms of indicating point dispersion and direction of that dispersion.

Figure 4. Standard Distance Deviation, Standard Deviational Ellipse, and Mean Center of Residential Burglary in the City Annually



Spatial Characteristics of Residential Burglary Based on Census Tracts

In the above sections, point and density maps were presented by pinpointing the addresses of residential burglary incidents on a city map to view spatial distributions and patterns. In this section, the focus is on spatial characteristics of residential burglary. The unit of analysis is the census tract. There are 90 census tracts in the city, and all addresses of residential burglary were geocoded according to the census tracts.

The primary purpose of this analysis is to link quantitative findings from the correlation and regression statistics in Table 4 into a spatial dimension. Such an approach is imperative and insightful in two ways. First, it can further examine the consistency and reliability of those findings, which are based on quantitative analyses. Several variables showed statistically significant relationships with residential burglary. If spatial analyses can be incorporated with these quantitative analyses, showing similar observations and findings, the research design and analytical method behind this study can be found more trustworthy and the results more reliable. For example, in the multiple correlation and regression analyses seen in Table 4, the variable population age of under 14 years old has a moderate but negative statistical relationship with residential burglary. Thus, do those observations demonstrate the same pattern in the spatial dimension as well? In addition, some variables do not have statistically significant relationships for residential burglary and, thus, further argument with quantitatively nonsignificant variable(s) are not needed. But analyses of quantitatively nonsignificant variables may be significant from a spatial approach. Such an approach may illustrate meaningful patterns for residential burglary.

Second, the spatially analytical approach can give further knowledge and insight into the relationship between residential burglary and various explanatory variables within spatial dimensions. A quantitative approach produces useful and valuable knowledge as seen in Table 4. However, it involves many various values and numbers, and it requires an intensive focus on, and enough background of, those values and numbers to correctly understand and interpret the results. In addition, in most cases, only statistically significant variables tend to be included in an analytical process. Thus, some important variables, which show no statistical significance, would be ignored. On the contrary, a spatially analytical approach can visualize the distribution and pattern on the map in a simple and clear way to see and understand relevant variables because it is straightforward and easier to interpret observations being depicted this way.

Four categories of independent variables (see Table 3) were used for this spatially analytical approach. As discussed, the information for those variables was retrieved from the U.S. Census based on the 90 census tracts in the city. Then, this information was combined with the data of all addresses of residential burglary, according to the 90 census tracts, using the "Joins and Relates" function in the *ArcGIS* software.

Table 3. Lists of the Variables for Correlation and Regression Analyses

Category	Variables*
Demographic	White, black, and other
Age	Age ≤ 14, 15-17, 18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65-74, and ≥ 75 Median age
Socioeconomic	Median income Unemployment Poverty level in population
Housing characteristics	Householder's race by white, black, and other Householder's age 15-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65-74, and ≥ 75 Poverty level in household House occupied or vacant Occupied by owner or renter

* All variables listed here are calculated with rates, except "median age" and "media income."

Table 4. Multiple Correlation Coefficients (Person's R) for the Rates of Residential Burglary for 90 Census Tracts Annually in the City

Variable	Year					Overall
	2001	2002	2003	2004	2005	
Population age ≤ 14	-0.290**	-0.300**	-0.302**	-0.334**	-0.273**	-0.306**
Population age 15-17	-0.218*	-0.238*	-0.207	-0.250**	-0.178	-0.226*
Population age 25-34	0.582**	0.578**	0.549**	0.617**	0.550**	0.591**
Population age 35-44	0.407**	0.448**	0.396**	0.427**	0.462**	0.432**
Population age 45-54	-0.234*	-0.175	-0.189	-0.172	-0.181	-0.197
Population age 55-59	-0.253*	-0.222*	-0.240*	-0.235*	-0.177	-0.234*
Population age 60-64	-0.251*	-0.246*	-0.212*	-0.296**	-0.269*	-0.262*
Population age 65-74	-0.299**	-0.328**	-0.301**	-0.302**	-0.307**	-0.313**
Population age ≥ 75	-0.226*	-0.271**	-0.240*	-0.221*	-0.287**	-0.250*
Unemployment	0.478**	0.430**	0.400**	0.471**	0.447**	0.457**
Householder age 60-64	0.640**	0.600**	0.615**	0.585**	0.567**	0.616**
Householder age 65-74	-0.294**	-0.320**	-0.277**	-0.283**	-0.255*	-0.294**
Householder age ≥ 75	-0.251*	-0.278**	-0.283**	-0.249*	-0.279**	-0.272**

* Statistically significant at the 0.05 level

** Statistically significant at the 0.01 level

Residential Burglary and Demographic Composition

As discussed before, the dense areas of residential burglary are spread across the city. Figure 5 presents the map of those areas superimposed on census tracts of the population. A clear pattern is observed between two population groups: (1) black and (2) white and others. Census tracts with a higher black population share a more highly concentrated rate of residential burglary than those with white and others population, indicating that the distribution of residential burglary is closely linked to the distribution of race among the population.

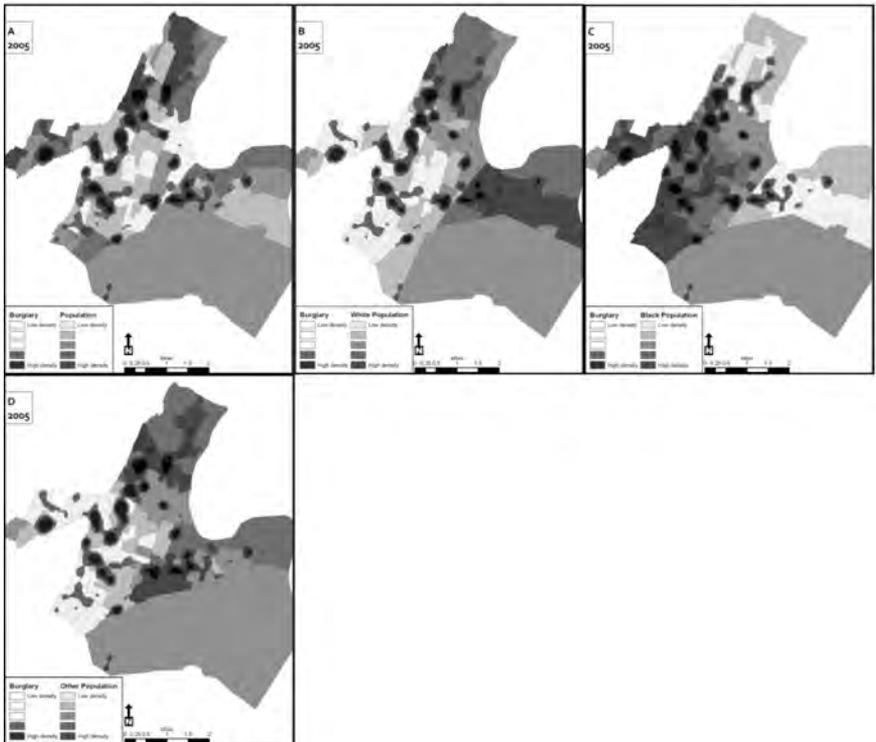
Residential Burglary and General Population Age Composition

In the above section, residential burglary showed a clear pattern in relationship to the general population age groups. As Figure 6 illustrates, an explicit pattern exists between residential burglary and the distribution of the general population

according to census-tract data. For example, Map A shows that census tracts with a higher density of the population below 14 years old coincide with many highly concentrated areas of residential burglary, though those spots are spread across the city. However, Maps B, C, and D do not have a clear pattern. Thus, it can only be confidently argued that the population age group of below 14 years old is strongly related to the distributions of residential burglary.

However, scrutinizing the data leads to an interesting observation. One common pattern is found among the four maps in Figure 6. Almost all census tracts with white colors, which represent the lowest degree of general population density, do not overlap the most highly concentrated spots of residential burglary. For instance, the central eastern section in Map A containing data from ages below 14, the central section in Map B of ages 25 to 34, the upper eastern section in Map C of ages over 45, and the upper eastern and southern sections in Map D of ages over 75 do not share highly dense spots of residential burglary.

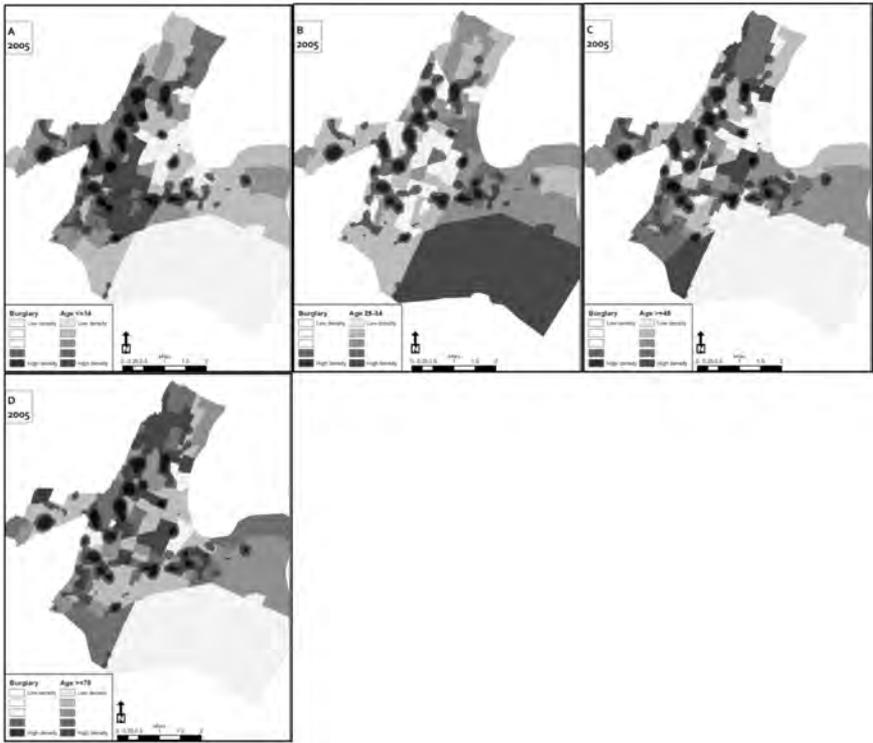
Figure 5. Census-Tract Maps of the General Population by Race with Density Maps of Residential Burglary in the City, 2005



This observation implies two points. First, as seen in Figure 6, both residential burglary incidents and the age groups of the general population are not distributed evenly throughout the city, generating an obvious pattern of distribution, which

relates to underlying socioeconomic conditions in the neighborhoods. Second, the distribution of both residential burglary and the age groups of the general population have a strongly linked pattern, suggesting that residential burglary is more likely to be associated with younger population age groups, in particular those below 14 years old, and that residential burglary is definitely less likely to correlate with thinly populated neighborhoods beyond any distinctive age groups. Thus, connecting those arguments, the data demonstrate that though residential burglary is not a personal crime, it is, to a large extent, related to the distribution of the general population and associated with a younger population.

Figure 6. Census-Tract Maps of Population Age Groups with Density Maps of Residential Burglary in the City, 2005



Residential Burglary and Socioeconomic Composition

Spatial patterns between residential burglary incidents and several socioeconomic variables are presented and discussed. Figure 7 illustrates census-tract maps of socioeconomic variables overlaid with residential burglary. At first glance, no explicit patterns appear. For example, residential burglary does not have an obvious pattern with the unemployment rate on the census-tract level—one of the reasons being that dense spots of residential burglary are spread across the city. Unless independent variables (e.g., unemployment, median income, and poverty levels) maintain overt and consistent patterns in the spatial dimension, it is not easy to find and confidently

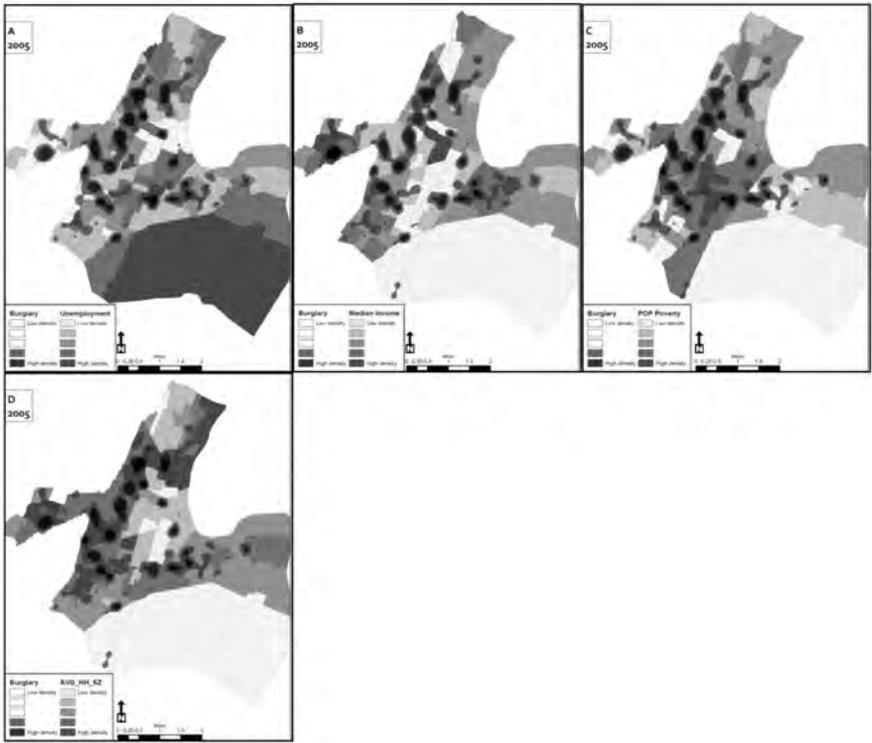
argue that a spatial relationship between those variables exists. However, Figure 7 shows some insight into this relationship. Regarding the unemployment rate in Map A, several highly dense spots are superimposed with areas of residential burglary, though it is not the case in the western section of the city.

The median income in Map B has an explicit pattern with the distribution of residential burglary incidents. The central section and some of the northern parts of the city have a lower-level median income, whereas most other parts of the city maintain a relatively higher-level median income. This observation is reliable when compared with Map A because the levels of unemployment and median income are presupposed to be opposite, meaning that the higher the unemployment rate, the lower the median-income level. The western section of the city, in particular, illustrates this relationship. Thus, Map B clearly shows that median income is associated with residential burglary in that the densest spots of residential burglary reside in and around the census tracts with relatively higher median income, whereas most census tracts with lower median income in the central and northern parts of the city do not coincide with residential burglary.

Poverty level in the general population in Map C has a similar pattern in that most of the central section maintains a comparatively higher level. Furthermore, census tracts in this area are closely associated with high levels of residential burglary. On the other hand, lower levels of poverty in the population and among householders is less likely to be related to residential burglary. Map D shows that the average household size more explicitly corresponds to the level of residential burglary.

Linking these observations, socioeconomic conditions in the city demonstrate an explicit pattern that neighborhoods with higher levels of unemployment tend to have a lower-level median income and higher levels of poverty in the general population and among householders. The central section of the city illustrates such a pattern on all four maps, indicating that residential burglary is greatly affected by socioeconomic conditions in the neighborhoods.

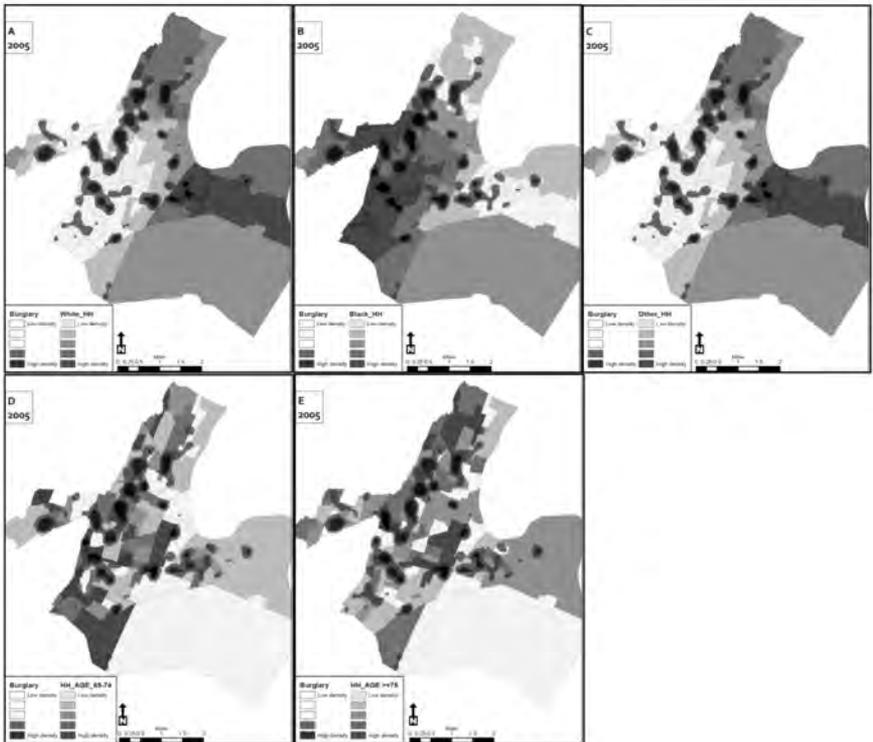
Figure 7. Census-Tract Maps of Socioeconomic Conditions with Density Maps of Residential Burglary in the City, 2005



Residential Burglary and Householders' Race and Age Compositions

The distributions of householders by race in Figure 8 are similar to those of the general population in Figure 6, illustrating that census tracts with white (Map A) and other race (Map C) householders primarily reside in the eastern and northern sections of the city, whereas those with black householders (Map B) are predominantly located in the western and central sections of the city. Some areas dominated by white and other race householders have dense spots of residential burglary incidents, but most areas with high levels of residential burglary overlap with neighborhoods with high concentrations of black householders. The pattern indicates that the neighborhoods dominated by black householders are more likely to be victimized by residential burglary than neighborhoods dominated by white and other race householders.

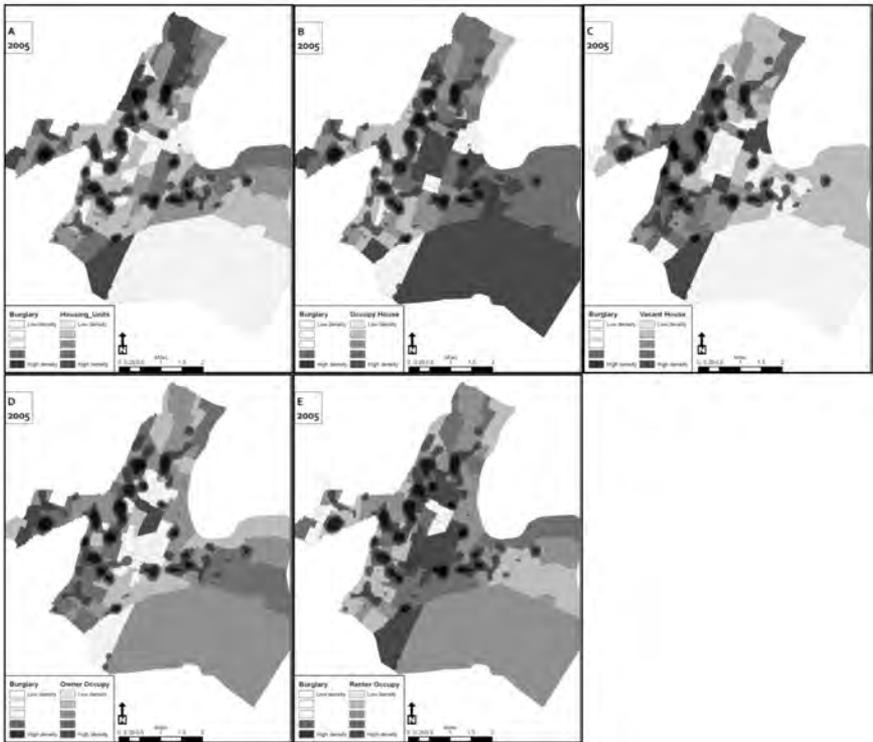
Figure 8. Census-Tract Maps of Householders by Race and Age with Density Maps of Residential Burglary in the City, 2005



Residential Burglary and Housing Characteristics Composition

Maps A and B in Figure 9 present the distribution of house occupancy with residential burglary incidents. The western, eastern, and northern parts of the city have dense rates of housing occupancy, whereas the central west and southwestern sections show relatively dense rates of housing vacancy. A clear pattern is not conclusive, but many of the densest spots of residential burglary that exist along the central west line of the city in Map B share the same spatial dimensions with census tracts having higher vacancy rates. In addition, Maps C and D below illustrate that the neighborhoods with relatively higher rates of house occupancy by owners, specifically in the western and southwestern sections of the city, tend to have more residential burglary than other neighborhoods. The existence of an explicit pattern cannot be conclusively argued.

Figure 9. Census-Tract Maps of Housing Characteristics Composition with Density Maps of Residential Burglary in the City, 2005



Discussion and Conclusion

Spatially descriptive analyses were conducted to examine the research question with two primary focuses: (1) to examine the spatial distributions and patterns of residential burglary and (2) to verify the findings based on quantitative analyses. All addresses of residential burglary were geocoded for the purpose of map projection on a street-line city map using *ArcGIS*, GIS computer software. Several spatial statistical techniques (e.g., point maps, density maps, and overlaying maps with independent variables) were used to examine the spatial relationships of residential burglary with other selective demographic, socioeconomic, and housing characteristic variables by incorporating with and overlaying over the census-tract-based maps.

First, point and density mapping methods were used as a macro-level approach. The point mapping approach, which pinpointed all events onto a city map, illustrated some indication of isolated patterns of residential burglary but did not demonstrate clear spatial pattern over the years. On the other hand, the density mapping approach, which created a smooth continuous surface to represent the density or volume of the events distributed across the city, clearly visualized several gradually concentrated areas of residential burglary, showing that the pattern of residential burglary incidents was not evenly distributed throughout the city. Though many streets and city blocks were affected by residential burglary, certain areas or neighborhoods obviously

experienced more residential burglary incidents. Such patterns were dependent upon neighborhood conditions such as demographic, socioeconomic, and housing characteristics.

An overlaying mapping method was used (1) to examine spatial characteristics of residential burglary with some independent variables (e.g., population race and age group, unemployment, median income, householders' race and age group, house occupancy, and owner occupancy) and (2) to examine the consistency and reliability of the early quantitative observations by linking them to census-tract mapping analyses.

With regard to the pattern of residential burglary, neighborhoods with a relatively higher black population shared a more highly concentrated rate of residential burglary than those with a white and others population. In short, black-dominant neighborhoods had more highly concentrated spots of residential burglary. Neighborhoods with a higher density population of below 14-year-olds coincided with many highly concentrated areas of residential burglary, showing that residential burglary, though not a personal crime to a large extent, was related to the distribution of the general population and associated with a younger population. Neighborhoods with higher levels of unemployment had a lower-level median income and higher levels of poverty in the general population and among householders, showing that residential burglary was greatly affected by socioeconomic conditions in the neighborhoods. In short, these descriptive spatial analyses generally confirmed most of the findings based on quantitative statistics.

Study Limitations

Some proportion of unmatched geocoding addresses existed. In the course of data transformation, all addresses of residential burglary incidents were geocoded for descriptive and statistical spatial analyses, using a GIS software function (e.g., geocode address). But there was some proportion of unmatched addresses from the dataset, with the average being 7%. The threshold of percent matching in criminal justice research is 85%. The current study shows a 93% matching point and, thus, its percentage is higher than the acceptable threshold in criminal justice research.

In addition, the generalization of the current study is an issue. The site for this study is an urban neighborhood close to a metropolitan city. According to the U.S. Census data for 2000, the population of the city was close to 270,000, and the total number of households was approximately 100,000. Even though the population and household numbers remain static, the city also has diverse ethnicities. Such conditions may not be similar to other urban cities in the U.S. Crime patterns and distributions may be different from other urban neighborhoods. Suburban neighborhoods and metropolitan cities may show different patterns of distribution of residential burglary than other urban areas. Thus, even if the same research design is used in other urban and suburban neighborhoods or metropolitan cities, the research findings could be different. Therefore, it remains necessary to study spatial analyses of residential burglaries in different cities.

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Appendix 1. The Rates of Residential Burglary Incidents Annually for 90 Census Tracts in the City

Tract ID	Year						Year						Year							
	2002		2003		2004		2005		Overall		2002		2003		2004		2005		Overall	
	2002	2003	2002	2003	2002	2003	2002	2003	Overall	Tract ID	2002	2003	2002	2003	2002	2003	2002	2003	Overall	Tract ID
1	0.020	0.015	0.013	0.006	0.013	0.013	0.063	0.060	0.102	0.032	0.078	61	0.025	0.022	0.019	0.013	0.019	0.019	0.019	61
2	0.042	0.018	0.022	0.011	0.023	0.023	0.047	0.038	0.025	0.015	0.033	62	0.016	0.012	0.014	0.015	0.013	0.015	0.013	62
3	0.012	0.011	0.010	0.008	0.011	0.011	0.043	0.030	0.010	0.031	0.029	63	0.015	0.012	0.012	0.008	0.012	0.008	0.012	63
4	0.009	0.024	0.016	0.007	0.015	0.015	0.038	0.070	0.042	0.038	0.047	64	0.014	0.011	0.013	0.011	0.013	0.011	0.013	64
5	0.033	0.005	0.031	0.015	0.020	0.020	0.046	0.028	0.040	0.019	0.034	65	0.040	0.027	0.046	0.028	0.046	0.028	0.041	65
6	0.027	0.022	0.012	0.019	0.018	0.018	0.023	0.025	0.018	0.020	0.022	66	0.026	0.019	0.034	0.013	0.025	0.025	0.024	66
7	0.023	0.019	0.023	0.021	0.022	0.022	0.043	0.023	0.035	0.015	0.031	67	0.016	0.026	0.033	0.020	0.033	0.020	0.024	67
8	0.013	0.015	0.022	0.021	0.016	0.016	0.020	0.028	0.015	0.020	0.023	68	0.021	0.007	0.010	0.010	0.010	0.010	0.013	68
9	0.018	0.014	0.013	0.018	0.016	0.016	0.026	0.030	0.024	0.013	0.023	69	0.018	0.013	0.009	0.012	0.013	0.009	0.013	69
10	0.027	0.026	0.022	0.022	0.025	0.025	0.051	0.034	0.042	0.036	0.039	70	0.012	0.011	0.012	0.011	0.012	0.011	0.012	70
11	0.033	0.029	0.032	0.016	0.028	0.028	0.026	0.021	0.032	0.021	0.025	71	0.015	0.011	0.016	0.009	0.016	0.009	0.014	71
12	0.034	0.038	0.055	0.046	0.043	0.043	0.020	0.022	0.014	0.013	0.018	72	0.106	0.068	0.078	0.060	0.077	0.060	0.077	72
13	0.038	0.032	0.037	0.022	0.031	0.031	0.035	0.023	0.019	0.015	0.024	73	0.016	0.017	0.016	0.006	0.015	0.006	0.015	73
14	0.022	0.022	0.026	0.026	0.020	0.020	0.020	0.012	0.008	0.007	0.012	74	0.016	0.018	0.006	0.004	0.011	0.006	0.011	74
15	0.031	0.034	0.053	0.038	0.037	0.037	0.026	0.023	0.011	0.017	0.022	75	0.139	0.125	0.128	0.056	0.111	0.056	0.111	75
16	0.025	0.033	0.036	0.014	0.027	0.027	0.028	0.018	0.026	0.018	0.023	76	0.004	0.016	0.019	0.009	0.011	0.009	0.011	76
17	0.045	0.050	0.039	0.026	0.043	0.043	0.014	0.008	0.009	0.007	0.010	77	0.040	0.039	0.040	0.016	0.038	0.016	0.038	77
18	0.059	0.050	0.059	0.025	0.049	0.049	0.055	0.037	0.021	0.033	0.037	78	0.019	0.021	0.017	0.019	0.020	0.019	0.020	78
19	0.022	0.021	0.020	0.012	0.019	0.019	0.020	0.019	0.011	0.014	0.015	79	0.027	0.015	0.008	0.007	0.010	0.007	0.010	79
20	0.036	0.045	0.029	0.013	0.032	0.032	0.039	0.048	0.022	0.019	0.032	80	0.007	0.004	0.009	0.003	0.006	0.003	0.006	80
21	0.008	0.006	0.008	0.002	0.007	0.007	0.020	0.013	0.016	0.022	0.020	81	0.033	0.031	0.020	0.022	0.027	0.022	0.027	81
22	0.024	0.020	0.020	0.011	0.018	0.018	0.017	0.009	0.015	0.008	0.013	82	0.029	0.036	0.031	0.007	0.030	0.007	0.030	82
23	0.033	0.036	0.034	0.025	0.033	0.033	0.084	0.053	0.068	0.048	0.071	83	0.024	0.032	0.027	0.017	0.028	0.017	0.028	83
24	0.032	0.036	0.020	0.015	0.026	0.026	0.032	0.042	0.019	0.007	0.025	84	0.007	0.006	0.009	0.011	0.009	0.011	0.009	84
25	0.033	0.035	0.023	0.014	0.025	0.025	0.014	0.005	0.007	0.001	0.009	85	0.008	0.013	0.008	0.007	0.009	0.007	0.009	85
26	0.049	0.044	0.026	0.043	0.042	0.042	0.015	0.028	0.021	0.002	0.015	86	0.041	0.035	0.026	0.014	0.030	0.026	0.014	86
27	0.025	0.038	0.041	0.029	0.036	0.036	0.005	0.007	0.013	0.003	0.010	87	0.016	0.041	0.008	0.004	0.013	0.008	0.004	87
28	0.050	0.048	0.050	0.050	0.051	0.051	0.012	0.010	0.014	0.009	0.014	88	0.347	0.297	0.459	0.237	0.358	0.237	0.358	88
29	0.048	0.058	0.053	0.019	0.046	0.046	0.035	0.034	0.061	0.034	0.042	89	0.020	0.016	0.013	0.016	0.018	0.016	0.018	89
30	0.016	0.034	0.039	0.005	0.026	0.026	0.021	0.012	0.014	0.015	0.018	90	0.022	0.012	0.010	0.006	0.014	0.010	0.006	90

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