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## From the Editor

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Dear Members,

Once again, the Southwest Journal of Criminal Justice is please to include a variety of scholarship in this issue. We constantly strive to showcase work that is interesting and relevant to the criminal justice community. The following six articles are important contributions to the discipline and provide insight to complex phenomena. In *Ramifications of Instructional Technology for Criminal Justice Education*, Dr. David Fabianic examines the role of online instruction and technology in criminal justice education. Technological advances continue to provide instructors new tools and the possibility to customize and enrich the education experience. These benefits may come at the cost of face-to-face interactions, as students access online content outside of the classroom. The adoption of new technology requires instructors to thoughtfully plan the use of classroom instruction and technological options to balance the costs and benefits of both methods to produce the desired effect. In *General Strain Theory: A Comparative Analysis of Latino & White Youths*, Dr. John J. Rodriguez and Dr. Scott Belshaw explore racial differences in offending through the lens of general strain theory. Secondary analysis of data from the National Survey of Adolescents reveals that Latino youths experience strain, but are less likely to respond to strain by engaging in delinquent behaviors than White youths. In addition, White youths are more likely than Latinos to commit serious delinquent acts as a result of strain. In *Undocumented Victims: An Examination of Crimes against Undocumented Migrant Workers*, Dr. Jacob Bucher, Dr. Michelle Manasse, and Dr. Beth Tarasawa conducted semi-structured interviews of 90 undocumented male workers in Memphis, Tennessee, incorporating questions similar to those found on the NCVS to measure victimization. As expected, results indicate that undocumented immigrants experience high rates of victimization but are unlikely to report these experiences to police. When asked about the decision not to report, approximately 20% claimed they feared reprisals by the offender, 24% believed the police would be biased, and 37% did not want to risk trouble with the police or the INS due to their own undocumented status. Results also demonstrate that victimization is not randomly distributed across the undocumented immigrant population; newly arrived immigrants and those living with several cohabitants are more likely to experience victimization. The authors review current police practices when responding to reports by undocumented immigrants and suggest alternatives designed to increase reporting by this group.

In *Social Disorganization and Registered Sex Offenders: An Exploratory Spatial Analysis*, Dr. Geetha Suresh et al. identify over 3,000 registered sex offenders living in Chicago, Illinois in 2009 and employ cluster mapping and analysis techniques to investigate levels of social disorganization in areas where sex offenders reside. Results show that sex offenders do tend to cluster in residential areas. These areas tend to exhibit high levels of social disorganization. The authors hypothesize that registered sex offenders are attracted to these areas by affordable housing, and that as registered sex offenders continue to gravitate toward these neighborhoods social disorganization will increase. In *Understanding Police Use of Force: A Review of the Evidence*, Dr. Charles F. Klahm IV and Dr. Rob Tillyer present a meta-analysis of police use of force studies published in peer-reviewed journals between 1995 and 2008. Twenty-three studies incorporating multivariate analyses are included in the present study, examining 212 different factors potentially influencing police use of force. The authors conclude that few suspect and encounter characteristics strongly influence police use of force. Results for individual factors tend to vary considerably across studies, with some finding a strong relationship where others find no evidence of any relationship. Mixed results may be caused by inconsistent or unclear operationalization of force, varying degrees of specificity in definitions of force, inconsistent or absent measurement of crime seriousness and contextual factors, and the use of differing analytical techniques.

Dr. John C. Kilburn Jr. reviews Peggy C. Giordano's *Legacies of Crime: A Follow-Up of the Children of Highly Delinquent Girls and Boys*, which describes a longitudinal study tracing delinquent behavior across two generations. Deviant girls (n=127) and deviant boys (n=127) began the study at an average age of 16 in 1982, and were reinterviewed in 1995 and 2003. The average age of participants in 2003 was 38, and by this time many were parents of teenagers. Approximately 25% of the original participants continued to engage in criminal activity as adults; 29% experienced alternating periods of avoidance and participation; and 45% discontinued criminal activity. Only a small percentage of children of delinquents engage in delinquent behavior themselves. Giordano explores the question of why some individuals desisted when others did not by applying social learning theory to the complexities of socialization, but clear answers do not materialize.

We hope you enjoy reading this issue.

Roger Enriquez, J.D.

Editor, Southwest Journal of Criminal Justice

REVIEWER ACKNOWLEDGMENTS

SWJCJ acknowledges the contribution of the following reviewers over the past two years in the journal’s peer- review process. The time and effort they devoted in reviewing submissions to the journal is greatly appreciated.

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## RAMIFICATIONS OF INSTRUCTIONAL TECHNOLOGY FOR CRIMINAL JUSTICE EDUCATION

**David Fabianic**

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### *Abstract*

*Online courses and developing technology in instruction have changed the nature of university teaching and are crucial to the future of criminal justice education. The integration of audio and visual material into instructional delivery in the form of canned lectures, pod casts, and elaborate online courses has created the potential for fully customized education. The ramifications of the continued development and adoption of technology in instruction hold the prospects of stimulating discussion on teaching, changes in curricula, and closer assessment of the quality of instruction in online and live courses. Doctoral programs may well consider producing graduates who are skilled in the latest technology in order to bolster their attractiveness on the job market. Resistance to these changes is sometimes based on unfounded contentions. In spite of the growth of online courses, there remain valuable qualities in live instruction and curricula, and faculties will likely seek a balance between the newer forms of teaching and live instruction in order to accommodate the advantages of both.*

**Key words:** technology, instruction, criminal justice, education, online courses

### INTRODUCTION

Financial concerns and emerging technology are creating many of the challenges facing educators in the coming decades. The future of criminal justice programs is filled with prospective changes that will affect many in higher education (Allen, 2008; Lemke, 1993; Wilet & Edwards, 2002). With shifts and vicissitudes in the international and national economy, the emergence of new security concerns, and the perpetuation of conventional crime problems on one hand, and the economic and organizational challenges facing colleges and universities on the other, criminal justice departments in higher education will be seeking survival strategies



just as vigorously as other academic departments with which they will compete for scarce resources. In this climate of transformation, an important ingredient will be the escalating instructional technology which will provide one of the tools to use to contend with the problems associated with academic maturation in the next few decades (Gumport & Chun, 1999). It is prudent to anticipate the possible ramifications for criminal justice education that emerging instructional technology and the associated applications represent. Much of the future of criminal justice systems will be shaped and influenced by those passing through criminal justice education programs and consequently the structure of that enterprise is crucial. The large enrollment environment is one place where technology has had a significant impact as far as serving numbers is concerned and consequently that is the primary setting for the ruminations that follow. The thoughts and observations are offered by one who had been teaching for over forty years in small and large enrollment environments, and has taught online courses during the last fourteen years. Most of the following discussion will focus on online instruction and delivery although the observations offered may apply more broadly in many instances.

Technology, broadly interpreted here includes online courses, video presentations, canned lectures, and the use of pedagogical tools such as Tegrity, has provided a learning environment that practically mirrors the large, traditional lecture hall and creates a virtual classroom. Although not all universities are at the same level of development and accessibility, today it is possible to create audio-visual presentations of class lectures and demonstrations, and much more (Hesel, 1992; Matthews, 1999). This might involve the inclusion of professionally or self produced DVDs; integration of audio-visual materials into classroom and online presentations; canned video lectures; expanded use of web instructional tools; clickers; or other strategies for delivering information or engaging students (Boulos, Hetherington & Wheeler, 2007). One can prepare a refined presentation that exceeds the normal features of the traditional lecture. The technology to create such presentations is available and will likely improve dramatically in the next ten years so that complete interaction and instant communication between faculty and student via the internet are available.

For many faculty members today, instructional technology begins with online instruction. Several years ago, online instruction was advanced and represented the cutting edge of teaching technology (Allen & Seaman, 2006; Kriger, 2001). Today it represents the first primitive step into the future. What lies beyond the conventional posting of lectures, other written materials, and assignments to be submitted online is a significant transformation of the way faculty members do their jobs and the rationale for doing it. The new technological forms will have significant consequences for structural features such as curricula and department organization. There are signs that this development is currently in progress. Online instruction is a given fact on most campuses today to the extent that some programs and universities exist entirely online. There are several compelling reasons that suggest the inevitability of advanced technological sophistication in instruction or explain its presence. The first is that technology is continuing to expand regardless of what use educational institutions may find for it. The world of electronic gadgetry is here with cell phones, I-pods, clickers, portable GPS systems and countless software

programs of all sorts for innumerable purposes. Higher education, like any other institution in society, tends to take what hammers are available and then go looking for nails to hit. There is a group among the teaching ranks in higher education that places emphasis on style while ignoring substance. It cannot resist the temptation of technological gadgetry and this group will feel compelled to indulge itself, simply because the toys are there.

In addition, it is important to recognize that today's students are generally well equipped to utilize these mechanisms. They have been socialized in a culture populated by electronic devices and they have become relatively facile in their uses. Students are able to communicate with others using this equipment and many students now favor electronic communication instead of face-to-face interaction. Putting the faculty who favor electronic delivery with a capable student constituency means that this form of instruction is well received by a substantial number of students.

The second reason is more pragmatic in that technology will be portrayed to be financially beneficial (Twigg, 2003). Universities, acting in what they think is their best interests, will adopt the new technology because they perceive it to be financially advantageous to do so. More and more courses and curriculum concerns will be driven by the presence of technology. Universities whose resources and facilities are impacted heavily by an increasing student population can find some relief in online instruction. Online instruction will not only help to enroll widely dispersed student constituencies that cannot otherwise be reached, but it will also facilitate accommodation by reducing pressure for additional classroom space, dormitory rooms, etc. of on-campus students. This enrollment is critical for those institutions and programs that depend on student numbers for survival. Criminal justice courses and programs would appear to be one of the prime beneficiaries of this possibility. One of the main constituencies for criminal justice programs are practitioners in law enforcement, corrections, or the judicial system, and the ability to enhance educational credentials through online programs is appealing to fulltime, working personnel.

The emergence of technology and the necessity for financial prudence assures that the developments and innovations in educational delivery will continue. That being the case, what does it mean for university level education in general and criminal justice education in particular? Given that web courses and other newer forms of instruction are rapidly proliferating with important consequences for criminal justice programs, it would be wise to consider several primary aspects of the emerging technology and to speculate about what may be anticipated for criminal justice educators.

## **CONSEQUENCES AND RAMIFICATIONS**

Assuming that criminal justice departments accept the inevitable, at least in principle, there are some immediate consequences that will be felt by academic departments as several factors converge producing results that if ignored may be detrimental. First, the technology expansion itself will call for more technical support. Departments may very well become

obligated to make budgetary provisions for a fulltime technical support person. The need for such a person will depend on the scale of involvement an academic unit chooses to pursue and the level of capability of the faculty members involved. As this issue is advanced, there will be questions raised concerning whether or not these services should be centralized or decentralized, matters that will have to be determined by the context in which they appear and the local political winds.

A second consequence will center on becoming able to compete. As more and more programs go online, the competition for students will escalate. Traditional universities and departments will be challenged by for-profit programs on the internet. The brick and mortar schools will try to develop incentives for students to enroll in their respective programs. Those incentives may be financial ones, the appeal of the web, the strength of institutional reputation, or the appearance of the “easier” curricula. The convenience of online instruction is a strong inducement and most certainly will be heavily emphasized. Students will seek alternatives to the very expensive, traditional college or university and search for the options that provide convenience and economy. The shortened, web-based program will appeal to this group.

Third, the national trend toward the reduction of fulltime, tenure earning faculty will continue. By using large enrollment online courses, more students will be able to be served more easily, and the need for fulltime teaching faculty, while not disappearing, will diminish slightly (Parry, August 14, 2009). (This does not necessarily mean a significant loss of fulltime faculty; critical instructional needs and the research obligation of the department will continue require fulltime staffing.) The reduction in tenure track positions will be assisted by publishers and independent entrepreneurs who will begin offering electronic packages for courses, if not for programs, thus reducing the need for a high number of fulltime faculty positions devoted to teaching large sections of undergraduates. Once these instructional packages are purchased, they need only to be administered.

Given this possibility, it is important to note that the same market parameters that now govern the publishing industry will prevail in the promotion of these instructional packages. This means that there will be a tendency to drift toward the least common denominator in terms of the quality and rigor imposed, and there will be strong competition in the market to promote and sell the products. It is also likely that if the electronic packages are like textbooks, they will undergo frequent revisions requiring their purchase in order to remain current. Publishers will tilt toward “dressing up” the product with a lot of bells, whistles and pretty pictures at the expense of content, while still charging a husky fee. Accompanying this will be a change in marketing strategies employed by publishers. Just as the textbooks for various courses are taken to reflect the quality of some courses, the adoption of instructional packages will be taken as an indicator of the quality of instruction provided by the faculty person. One possible result of this process could be the production and distribution of canned or packaged courses which if created by nonprofessionals might be filled with inaccuracies. As publishing groups assume the obligation for generating technology for teaching, it is possible that they may take on faculty persons as fulltime time authors to assist in the writing and development of their products. Among other things, the curriculum will likely be altered and the role of the faculty member



may change to include writing specifically for online learning. As a result of all this, at the very least questions will be raised about the level of quality of the packages being offered, and curriculum reviews and oversight will be difficult in the future.

One related result of the scrutiny to which online and canned courses will be subjected will be an effect on live courses offerings. As questions are raised about the quality of electronic offerings and the faculty labor invested in them, it will be logical to ask the same questions about existing live courses to determine whether or not they are of sufficient quality. The urge to expose lazy faculty who are abusing online courses will quite likely expand in application to all forms of instruction. This will make some people very uncomfortable and in the effort to establish some form of quality control there are likely to be critical discussions about the nature of teaching, conversations that would not otherwise transpire.

A fourth consequence is the likelihood that the technological imperative will also impact curricula in doctoral programs and the hiring process for newly minted PhDs. The prospects for the future role of the university criminal justice instructor will be the same as for any similar discipline that is strong on lecture technique and less concerned with laboratory instruction. The challenge may be addressed at either the individual or departmental level, or some combination of the two. At the individual level, when new hires are made, departments may be looking for technical pedagogical skills in addition to knowledge of the discipline and the ability to conduct research. A possible item included in future hiring materials may be a proficiency in the “canned” performance of the applicant in which he/she demonstrates mastery of current, cutting-edge instructional tools. Department hiring authorities may be asking applicants if they possess the requisite technical knowledge to be able to contribute to the instructional profile of the department, and this may include the abilities to teach online courses at a minimum, or perhaps work in a more advanced technological medium. If this situation transpires, doctoral programs will become obligated to offer some educational strategies to assist their graduates to become competitive in this area, as they sometimes do with PowerPoint and other graphic presentations programs. Consequently, we may witness an addition to the core curriculum, one that addresses this aspect of preparation. Doctoral programs may actually begin to teach their students how to teach.

A fifth impact, related to the preceding ones, is an additional dimension along which faculty members will become stratified. In many departments, there already exist numerous factors that divide faculty members into various groups, such as rank, research interests, quantitative skills, graduate teaching, grantsmanship, etc. The ability to adopt and manage successfully various forms of new teaching techniques could provide one more factor by which faculty members will draw distinctions among themselves. This would become more important at the teaching institutions but it would still remain significant at research universities as well.

## **SPECIAL CHALLENGE TO THE STATUS QUO**

The preceding ramifications all assume a degree of utilization of newer technological forms for instruction. There are several ramifications of new instructional technology that precede the acceptance of these innovations. A major consequence of new technology on teaching and the traditional ways of delivering information will be the challenge to conventional instruction and resulting faculty reaction. It is important to consider this challenge further because it is critical to the development of technological instructional tools. For many years, the gold standard for instruction has been the live, face-to-face setting in the classroom with a small number of students. The reality for many departments in higher education, particularly those with large enrollments, is that Mr. Chips left the building a long time ago. Instructional style has transitioned from the small, intimate classroom to free form web courses that feature mostly text and email; to early web courses through Blackboard and WebCT; to narrated PowerPoint integrated into web courses; to audio and video attached to files; to canned video lectures or presentations. Each of these stages has brought us closer to complete simulation of the live classroom. What is now possible are full lectures that can be taped and viewed at any time supplemented by a variety of technological tools to support this initiative. In addition, students can communicate “face to face” with a video camera thus providing interaction. This comes very close to the current experience of a student in a large class listening to a lecture. Add to that the ability to download a presentation and carry it around on an iPod and there are some clear advantages to the new technology.

With advancing technology, significant problems are likely to emerge at the faculty level and one such question concerns the future role of the faculty member. Even with the early forms of web instruction, there were fears expressed of “faculty obsolescence.” This apprehension is represented in the notion that online courses would somehow render faculty members less meaningful or useful. Some apprehensions included speculation that faculty personnel would begin to completely disappear and would no longer be needed. This has not happened and these concerns have perhaps persisted due to the financial crisis facing higher education and subsequent hiring freezes and layoffs. In the current financial climate, there will be an increased initiative from university administrations to economize course offerings and to seek most production for the least investment, while offering the appropriate words to rationalize and defend the quality of what remains to be taught (Milam, 2010; Perez, 2009; Twigg, 2003). The latter is a matter of manipulating the smoke and mirrors, and most administrations are good at that.

As new instructional techniques merge with traditional pedagogical forms, resistance to change on the part of some faculty can be expected (Johnson, Aragon, Shaik & Palma-Rivas, 2000). The acceptance of online teaching, or other forms of instruction using cutting edge technology, has not been universal and there remain many objections and resistance to these new forms as they grow and develop. At the department level, it may be there are too many old dogs to which new tricks cannot be taught. The objections they typically raise include a

mistrust of the web, loss of face time with students, aversion to technology in general, lack of technical support, and other problems which they contend are difficult if not impossible to resolve (Dobbs, Waid, & del Carmen, 2009).

The presence of someone to perform the technical portions of the task as well as lead the faculty gradually to the new form of teaching and learning might ease some discomfort attendant the technical concern. This is problematic to an extent because given budget constraints, funding for such a position would likely come at the expense of a faculty position, something that most departments would seek to avoid. In addition, making the technician role compatible with faculty personnel may prove awkward.

The reluctance of some faculty to adopt the newer forms of delivery is understandable, but some of the arguments used to resist change and justify the status-quo are not sound. Some progress in persuading reluctant faculty is perhaps possible if a few of the myths about online teaching are confronted directly. For example, there are at least two substantial concerns often aired by those who oppose online courses, and by extension other less conventional forms of instruction. The first is the loss of “face-time” with students. Face-time is that time during which teacher and student interact in person and are actually communicating with each other face-to-face. The second is the prospect of cheating and plagiarism.

### **THE VALUE OF FACE-TO-FACE INTERACTION**

Among the things that online teaching should require of participating faculty are examinations of what teaching is, what is expected from the students, what is expected from the teacher, and an assessment of availability of resources to support online instruction. For some faculty members, their aversion to online instruction or canned lectures rests with the belief that the live classroom setting is sacred ground upon which a unique dynamic of learning transpires. For them, this dynamic can only occur in the environment of face-to-face meeting with students (Parry, August 14, 2009; Shieh, 2009; Witta, 2005; Young, 2002). No doubt this is correct in some instances, particularly classes with low enrollments. Another perspective emerges upon close examination of conventional lectures delivered to classes with large enrollments. The reality is that for many large enrollment classes employing lectures, face-time instruction has become rote and routine, often each class very much like another one, and never straying too far from the traditional approach of the teacher in front of the classroom reciting the day’s lecture from slightly worn pages. Even if the faculty member has advanced to the use of PowerPoint displays, often the displays rarely change and only put up on a screen the tired old notes from years’ past. There are several reasons why this pattern is as common as it is. Faculty members can exist comfortably embracing this style because it is safe; requires little work and no innovation; and easily passes as acceptable. Students and others perceive this style to be the traditional classroom and when they experience it they are convinced they are getting what they expected to receive. The professor is seen as the fountain of knowledge and the students are regarded as vessels that need to be filled with wisdom. The students play the role of passive

learners primarily interested in getting through the course with an acceptable grade. This approach discourages genuine critical thinking, challenges to conventional wisdom, and development of independent thought and expression. None of these consequences should surprise any faculty member who teaches large enrollment classes because this approach to address large numbers of students is structured to produce those discouraging results. In such circumstances, neither the professor nor the students are very interested in anything beyond getting through the term by clearing the not too high hurdles that include several examinations and perhaps another assignment or two. Most instruction in the large, overcrowded classrooms filled with undergraduates begins with this model or some variant of it.

In spite of these characteristics of the large lecture, one of the first expressions of concern often uttered by those who resist online teaching is that the face-to-face classroom is better because it leads to teacher “getting to know” their students better, and leads to better communication. Sometimes it is claimed that the online courses lack the “human” element and that this is what is valuable in live courses. There is no question that there are contrasts between live and online courses, and that one of the many points of difference is the absence of “live,” face-to-face interaction between the students and the instructor. The claim that the face-time approach is superior due to the connection between students and teacher is questionable and warrants closer examination.

Keeping in mind that the form of instruction under consideration here is large enrollment undergraduate courses that do not involve significant or substantial mathematics or statistics, the claim that the teacher in the live class gets to know the student better than does the online instructor can be challenged. To begin with, teachers in large, live classes rarely get to know any more than a handful of their students, and few of those connections go beyond name and face recognition. Large classes do not lend themselves to significant familiarity between student and teacher. There are exceptions here and there across the educational landscape of teachers who make a point to learn the names of all the students in their classes of 100 or more, and learn to identify them sufficiently to be able to call on them in class. These herculean efforts are very rare, and even then there remains the question of how well the teacher knows the students beyond their names. The truth is that most teachers of large enrollment classes become acquainted with only a small number of students as they present themselves in class. When questions are solicited or discussions pursued in class, normally there are a handful of students who are willing to participate. The instructor becomes acquainted with these people to a limited degree, but not much more than the rest of the class many of whom are very reluctant to speak out in a class setting.

By comparison, the online teacher may be in a better position to draw out responses to students by engaging students in online discussions. Discussion boards in online courses permit students to draft thoughtful responses and to examine the responses of others carefully before replying. Likewise instructors can carefully craft statements to post to respond to students’ thoughts. Students learn there is less risk of embarrassment posting a message on a discussion board than speaking in class. As a result, the online teacher is probably able to reach more students in a significant way than the teacher in the live classroom setting. Many of those

students who would never participate in a live class discussion will contribute to online discussions and do so consistently throughout the term. To the extent that these discussions inform the teacher about the student, the online instructor is at least as well if not better informed about students than the instructor of the live course.

If the value of face-to-face instruction is to be found in the discovery and awareness of personal circumstances or the reading of cues related to understanding the course information, again the online course has something to offer as well. Being removed from the face-to-face form of interaction, students who may otherwise be inhibited from interacting are much more likely to express themselves about all sorts of things once they are able to do so online. There is a veil of semi-anonymity associated with posting a message online. The work of the student and the students' names are on the messages, but there is some electronic distance between themselves and others who are reading the messages. This space or distance is what contributes to the reduction of reticence for the shy or reluctant student allowing them to become more likely to participate. There is not as much fear of rejection or apprehension of being wrong in front of an instructor who is looking directly at you, not to mention a classroom filled with other students. To some extent, it was this problem many years ago that led to the adoption of the discussion group format for some large survey courses. Faced with increasing enrollments, some departments turned to large lecture classes numbering in the hundreds and provided the personal contact with graduate teaching assistants to lead smaller groups of 12 to 15 students once a week in discussion groups. The idea was to use these smaller group meetings to provide the personal value that was absent the large lecture hall approach. How well this worked as a pedagogical device is debatable. Nonetheless, faculty who oppose online courses or the emerging forms of instruction driven by technology on the grounds that the face-to-face experience in a large lecture setting affords a special and unique bond with the teacher do not have an unassailable argument.

Still, there is something intrinsically valuable in a small, live class where the faculty member is a teacher as opposed to a lecturer. The value of this form is in the nature of human interaction, the ability to see and react to subtle communication cues, the necessity and opportunity to respond and express thoughts verbally, quickly. It is learning the subtleties of speech and learning to read the expressions of others. It is learning that people respond differently when before an audience than when by themselves. It is realizing that once two people are engaged in an interaction, a new product is created that is more than the sum of its parts. This more personal form is that in which much of our interaction and communication takes place in institutional settings, it is the way much business is conducted, and it is the prevailing method of social discourse. One of the more valuable assets of live instruction in criminal justice is that it is a way to communicate and socialize students into one of its several professions (Hundersmarck, 2009). This is the result of interacting with a large number of people face-to-face and observing and practicing the standards of the profession. It is learning verbal communication and interaction skills contributing to the ability to manipulate concepts and elaborate them in communication with others; and immerse oneself in the discipline and



discuss matters germane to professional interests. When a student takes an online course, they do not receive this exact experience. There are compensatory virtues to be sure, but they do not replace that which is missing.

Are these features necessary? Do we really require these experiences in order to produce a well educated criminal justice student? That is a question that confronts faculty in general and especially those who teach the online courses and those that design curricula for academic programs. It is clear that while online courses and other newly developed instructional forms are administratively expedient and also provide a valuable asset to a curriculum, they should not necessarily be the only form of educational experience required of every student in spite of the growing use of advanced technology in instruction. The issue may not be that one must embrace either online or live instruction, adopting one at the exclusion of the other. While large face-time classes do not impart the qualities valued by those that support face-time instruction, a strong argument can be made that small enrollment face-time classes do. If there is significant value in these classes, degree programs should consider requiring a modicum of live, small enrollment classroom experiences. In addition, a requirement for all students to take some minimum number of online courses should be considered. It is abundantly clear that online instruction, and the new emerging forms of technology will continue to expand their roles in delivering instruction and a substantial amount of learning in the future will take place using these techniques. The well educated student will have to know how to negotiate these learning opportunities in order to continue learning. This experience will be valuable criminal justice systems employees who seek additional education or training while remaining fully employed.

Therefore, academic programs such as criminal justice must come to recognize that although administratively pleasing and fiscally prudent, online and high tech programs have limits as far as academic merit is concerned. Maintaining exclusively online programs maybe terribly convenient for students and administrators, but it is not necessarily in the students' best interests. Deployment of nontraditional forms of education will mean changes in the ways in which departments and faculty members do their jobs and organize themselves. On the other hand, there is no reason for faculty members to continue to resist online instruction based on the notion that large enrollment face-time courses are providing something so valuable as to justify a reluctance to accept the newer instructional technology. On the other hand, there are strengths and specific elements that are unique to small enrollment live classes which make them a valued experience as well.

## **CHEATING AND PLAGIARISM**

A second major misgiving that is often cited by critics of nontraditional instruction is plagiarism and cheating, particularly on examinations (Lanier, 2006). Perhaps there is no place where the difference between live and online instruction more is evident than in the process of examinations. The standard testing procedure in the live class is the instructor carrying some printed exams into the classroom, distributing the exam, and announcing the time limit, perhaps

even putting the time on the white or black board, and collecting the exams at the conclusion of the period. There are some variations on this theme, but essentially the instructor is present to monitor the proceedings and can witness the students taking the exams. Taking exams online creates more opportunities for cheating and plagiarism, a major concern among many who teach online and definitely a point that is cited by those who refuse to accept online teaching as legitimate. Aside from the classes which require students to appear at a specific location at a specific time in order to take their examinations, or perhaps the small enrollment classes that can enjoy the luxury of substantial essay questions, the online situation is generally different, and the difference creates the necessity for further reflection concerning the nature and meaning of teaching as well as the strategies that are employed to evaluate performance. In the simplest form, as the one described above, online students will not be present at a common location during a specific time period. However, online exams are usually not administered at a single location because to do so would defeat one of their prime objectives, namely, to reach students who are dispersed geographically. Rather the students will be dispersed over a larger area and the time period may be very expansive. Students in this setting are generally not monitored and that in turn opens the possibility for plagiarism and cheating. Faculty are fearful, with good reason, that students will not do their own work on the other end of the exam, or they are fearful they will busy themselves finding the answers to questions by consulting outside sources. There is ample justification for these fears. The questions raised by this fact include assessing how much difference this makes, and what can be done to minimize it.

That being said, this challenge demands that the process of testing students online must be carefully considered. First, it must be acknowledged that plagiarism and cheating occur in most modes of instruction. The live class has its share of errant test takers in the form of “ringers,” crib-note carriers, and “copy-directly-from-someone-else” type cheaters. Added to that list are those who cheat by texting for answers. Thus, this form of misbehavior is not unique to online students. All instructors must come to grips with a single fact: Some students will cheat if you give them a chance. The problem in online courses is that if the instructor is going to use the conventional examination process, he/she must first accept that this is going to happen. The instructor must think of ways to make it difficult for students to accomplish this, develop strategies to make it less meaningful to cheat, or to account for it in some way, without eroding the integrity of the exam.

There are several initiatives available to instructors concerned about cheating on exams. Staying focused on the large class, one that is a basic survey type of course, and assuming that the testing will be through the use of multiple choice questions, there are several measures that can be used to reduce or limit certain forms of cheating. First, establishing a time limit for taking the exam is useful. That is, constructing the exam so that once a student opens the exam, it will remain open until a certain period of time has passed and after that time has expired no more answers will be accepted. This places the student under some obligation to know as much of the material as possible because by establishing this time limit the instructor has limited the amount of time a student may use for using outside sources to look up answers. The students

who have prepared properly will be able to move through the exam from one item to another without delay. Students often don't believe this until they experience it for themselves. For example, consider a fifty item multiple choice examination with a sixty minute time limit. Once a student has taken five minutes to look up an answer to an exam question, and another three minutes for another question, and another three or four minutes for a third question, they will come to realize that they have taken over ten minutes to answer three questions and that have 47 more questions to go and only fifty minutes to spend doing it. Clearly, that student is not likely to perform well. Instructors would do well to consider open book examinations to capitalize on this reality.

This simple strategy can be strengthened if the instructor has a large pool of test items to use for the examinations. The examination can be constructed so that the questions on the exam are drawn randomly for each student from a large pool of test items. This means that although there may be a few test items that are common to a few exams, for the most part each student has a different exam comprised of different items. This eliminates exam sharing because the each student is looking at different examination questions.

The above strategies do not eliminate the "ringer" form of cheating. The ringer will have to be a good student in order to pass the exams. As with all ringers, whether in live or online courses, they have to be proficient in the subject to be successful. For the most part, the online teacher will never known for certain who is on the other end of the electronic connection.

Recognition that cheating and plagiarism exist in both live classes and online instruction is the first step toward assessing how prevalent it is, whether it makes a great difference, and what can be done to minimize it. The conversations that faculty have concerning this issue is likely to be ongoing and never completely satisfying to anyone.

## **SUMMARY**

Instructional technology is expanding at a rapid rate and will likely continue in the near future. These new technologies will alter the way many faculty people think about the teaching function and the way the departments are organized to accomplish their missions, particularly in the large enrollment setting. The new wave of instructional technologies will serve to challenge conventional forms of teaching. Faculty will be required to sort out what they wish to preserve of the traditional forms of instruction and what they desire to include from the new. In the process of transition, faculty members will be obligated to think more clearly about whatever form of instruction they employ. As these discussions transpire, some of the myths surrounding both the new and the traditional forms of instruction will be identified and challenged. Departments will be faced with pressures to adopt new technologies and offer a justification for modes of conventional teaching. Curriculum construction will reflect this process and what emerges may take any of several different forms. The forms that instructional patterns take will strongly influence the nature of the educational process and thus impact those entering criminal justice systems.

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The implications of rapidly developing instructional technology are many for criminal justice educators. Consistent with general institutional budgetary initiatives, departments will be required to make curricular adjustments to comply with financial necessities while still maintaining an acceptable student hour production. It is likely that new technology will be involved in this process. The costs of instructional support for online instruction will become a recurring budgetary item. Education and training of faculty to participate in online instruction will likely become a regular feature within departments. On one hand, new faculty will be expected to possess a modicum of skill enabling them to assume the responsibility for online courses. On the other hand, criminal justice doctoral program will be challenged to include education for online instruction within their curricula. A further implication is that as experience with online instruction proceeds, more attention will be paid to “best practices” and the variation of success as it relates to different types of students.

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## UNDOCUMENTED VICTIMS: AN EXAMINATION OF CRIMES AGAINST UNDOCUMENTED MALE MIGRANT WORKERS

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### *Abstract*

*This study investigates the victimization of undocumented male migrant workers in a southern metropolitan area. Interview data from a sample of undocumented male workers indicate that these workers experience a high rate of victimization, yet they are unlikely to report the crimes or pursue criminal justice aid. Our findings suggest that their immigrant/undocumented status may make these workers particularly susceptible to victimization and limit reporting of victimization due to perceived deportation risk. The reluctance to involve law enforcement, however, may increase their suitability as targets, and ultimately serve to further increase their likelihood of victimization. The importance of recognizing the potential victimization of this population and policy implications for the criminal justice system are discussed.*

**Key words:** Victimization, Immigration, Latino, Ethnicity, Criminal Justice

## INTRODUCTION

In recent years, the issue of undocumented migrant workers (illegal immigrants<sup>1</sup>) has been brought to the forefront of public discourse, and contemporary debates about undocumented workers tend to be framed by public anxiety over the perceived economic and social consequences of increased immigration. Along with fears of lost jobs and rising health care costs, Americans voice concern that new immigrants will engage in high rates of crime

(Martinez, 2006; Sampson, 2006). Despite societal fears, the bulk of research on immigration and crime suggests that immigrants are actually less likely than non-immigrants to engage in criminal activity (Butcher & Piehl, 1998; Hagan & Palloni, 1999; Reid, Weiss, Aderman & Jaret, 2005).

A limited body of research on immigration and crime has also focused on immigrants as victims of crime (e.g., Biafora & Warheit, 2007; Catalano, 2005; Sorenson & Lew, 2000), however due to research focus and methodological constraints, existing studies examine the victimization of legal immigrants – sometimes even second or third generation immigrants – rather than undocumented workers. As undocumented workers are not captured by census data, official victimization datasets, such as the National Crime Victimization Survey (NCVS), do not measure victimization within this population. This gap in the literature is particularly problematic as undocumented workers may be prime targets for victimization. For instance, many are paid in cash and keep their wages in their residence until they can send it home to their families (Hansen, 2005), which may make them attractive targets. As their “illegal” status, by definition, puts undocumented workers in violation of immigration law, they are also unlikely to report any victimization to law enforcement; this only serves to increase their attractiveness to potential offenders.

This research addresses an under-researched aspect of immigration and crime by investigating the victimization of this marginalized population. By administering self-report victimization surveys to a sample of undocumented workers in Memphis, Tennessee, we are able to compare the victimization rate of this population to national averages and determine if/how their undocumented status affects their risk of victimization.

## **Immigration and the South**

Much like European immigrants before them, today’s immigrants left their Latin, Asian, and African countries in search of occupational opportunity and political refuge in the United States. Historically, European newcomers settled in large port cities, and by the early 1900s the majority of immigrants were located in the Eastern seaboard or upper Midwest working in urban factories (Bump, Lowell & Petterson, 2005). These immigration patterns were guided by U.S. institutional policy and restrictions that related to historical economic labor supply demands, native and ideological sentiments, and international political interests (Dinnerstein & Reimers, 1977; LeMay, 1986).

Today’s immigrants are mostly from Asia and Latin America (particularly Mexico, Central American countries, Philippines, Korea, and Southeast Asia), and the majority continues to settle in just six states: California, New York, Florida, Texas, New Jersey, and Illinois (Gozdiak, 2005). Specific industries such as meat processing, agriculture, and construction companies recruit immigrants for low-wage labor. The Latinization of workers

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<sup>1</sup>The term “illegal immigrants” is the popular public terminology for undocumented migrant workers violating immigration laws of the host country.

picking apples in the orchards of Washington, oranges in the groves of Florida, grapes in the crops of California and mushrooms in the sheds of New England all reflect contemporary immigration patterns (Gozdiak, 2005). Government has also brought newcomers to areas with growing economies through refugee resettlement programs.

Unlike the traditional settlement states, the foreign-born undocumented Latino population drives the majority of the immigrant growth in the South. The category of “undocumented immigrant” captures a diverse population. Generally, the undocumented population is defined as foreign-born persons living in the United States without proper authorization papers (Passel, 2005). These individuals can range from immigrants who overstay their student visas, to people who come looking for occupational opportunity, to those who flee persecution from their home countries and could qualify for temporary protection with refugee status. Recent figures estimate that more than 10 million undocumented immigrants reside in the U.S., including more than six million Mexicans (Passel, 2005).

Beyond the sheer magnitude of growth in the Latino population in the South, the characteristics of these immigrants are distinctive. The occupational opportunities attract large numbers of young workers who are likely to have arrived recently, to be foreign-born, to have low levels of education, and to speak English poorly or not at all (Kochhar, Suro & Tofoya, 2005). These patterns are defining characteristics of the first waves of Mexican labor migration (Durand & Massey, 2004).

Although Latinos previously had a relatively small presence in Tennessee, they are now a visible player in the state’s demography. Tennessee saw the fourth highest rate of increase (278%) in Latino population within the U.S. between 1990-2000 (Kochhar, Suro & Tofoya, 2005). Like most southern states, the rapid growth in Tennessee’s Latino population is largely driven by undocumented migrant workers, and Tennessee is one of the states with the highest percentage (40-54%) of unauthorized residents in its foreign born population (Passel, 2005; Passel, Capps & Fix, 2002). As of 2004, the estimated number of unauthorized immigrants in Tennessee was roughly 100,000-150,000 (Passel, 2005).

## **Immigrant Victimization**

Census data do not account for undocumented migrant workers; therefore, undocumented workers are not represented in the NCVS, and there are no official data on victimization rates for this population. However, official data can provide comparisons of the victimization rate for Hispanic<sup>2</sup> and Non-Hispanic citizens/permanent residents. According to 2004 NCVS data, Hispanics and non-Hispanics were at equal risk for many forms of victimization, including rape/sexual assault, robbery, aggravated assault, and theft, and Hispanics were actually less likely than non-Hispanics to be victims of overall violence and simple assault (Catalano, 2005). In 2004, Non-Hispanic and Hispanic males were also equally likely to report victimizations to the police<sup>3</sup> (Catalano, 2005).

Although research in the area is quite limited, comparisons of victimization rates between immigrant and non-immigrant groups also show little significant variation between the groups.



In a comparison of homicide rates among immigrant and non-immigrant populations in Los Angeles, Sorenson and Lew (2000) found immigrants were at only a slightly higher risk of homicide than non-immigrants. In a large-scale study of self-report victimization among immigrant groups in South Florida, Biafora and Warheit (2007) found no difference in victimization rate between Hispanic immigrants and non-immigrant groups.

While the above findings suggest little difference in the victimization risk for Hispanics and non-Hispanics or immigrant and non-immigrant groups, these data do not consider “illegal” immigrants. Undocumented workers are likely to have lifestyle characteristics that put them at a significantly higher risk of victimization than U.S.-born Hispanics or legal Hispanic immigrants represented in most self-report victimization data.

An individual’s lifestyle plays a fundamental role in victimization rates, according to routine activities theory (Cohen & Felson, 1979). Cohen and Felson (1979) suggest that for crime to occur there must be a convergence of a motivated offender, suitable target, and the lack of capable guardian, such that, even if the number of motivated offenders remains constant, shifts in victimization rates may increase with shifts in the availability of suitable targets or capable guardians. Therefore, to the extent that undocumented workers are more likely to be perceived as suitable targets and/or find themselves in environments lacking capable guardians, their risk of victimization would increase.

Undocumented workers are likely to have characteristics and engage in behaviors that make them particularly suitable targets for victimization. First, immigrants tend to face a language barrier and have little familiarity with their new living area; this alone can make them susceptible to offenders looking for an easy mark. As undocumented workers generally enter the country illegally in search of financial opportunity, they often live in poverty and thus tend to reside in low-income areas (Bump, Lowell & Petterson, 2005). Undocumented workers may therefore be suitable targets simply by living in high crime areas. Undocumented migrants, who often do not have bank accounts, also tend to carry large amount of cash on their person. This behavior – as well as the knowledge of this behavior among offenders – makes undocumented workers lucrative targets for robberies and theft (Hansen, 2005).

The circumstances of undocumented migrant workers also make them less likely to have the protection of capable guardians. Data from the 2004 NCVS show that the risk of increases with the number of people living in a residence and research on immigration finds that undocumented workers often live with other undocumented workers (Passel, 2005). In theory, multiple people in a single home could provide effective guardianship. However, undocumented workers living together are highly transitory and tend to not be related; multiple

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<sup>2</sup> The NCVS defines “Hispanic” as persons who identify themselves as Mexican-American, Chicano, Mexican, Puerto Rican, Cuban, Central or South American (if Spanish speaking countries) or of other Spanish origin. This category includes persons of any race.

<sup>3</sup> The relationship between race and reporting victimization to the police differs by gender. Although there is no difference among males, in 2004, Hispanic females were more likely than non-Hispanic females to report a violent crime, while non-Hispanic females were more likely than Hispanic females to report a property crime.

residents are therefore more likely to reduce effective guardianship, as multiple strangers may enter the home and gain knowledge of the residents' everyday activities.

Offenders are also aware that immigrants fear the Immigration and Naturalization Service (INS; now absorbed by Homeland Security). In many cities, police are affiliated with the INS<sup>4</sup> and thus victims without legal status often do not report thefts or other criminal acts for fear of deportation (Hansen, 2005). Immigrants may fear the police because of traumatic experiences or may not trust the police because they come from societies where law enforcement is corrupt (Gozdziak & Melia, 2005). Additionally, research suggests it is not uncommon for police to improperly stop and investigate Latinos based on their ethnicity or perceived immigrant status within new settlement cities (Schoenholtz, 2005). Such resistance to involving law enforcement and reporting victimization can increase the risk of victimization. Felson, Baumer and Messner (2000) found that reluctance to report crimes to the police among poor, Black males increased offenders' perception that they were a "good take" and increased the individuals' overall likelihood of victimization.

By analyzing self-reported victimization data from undocumented workers in Memphis, Tennessee, this research uncovered the victimization risk of this marginalized population and expanded the limited literature on immigration and crime. Based on Felson and Cohen's routine activities theory, we expected that respondents to experience a higher incidence of victimization than the general population, and this victimization would be linked to lifestyle characteristics related to the respondents' immigrant status.

## METHODS

### Sample

An exploratory study of undocumented migrant workers<sup>5</sup> was carried out during March and April of 2004. The data were collected in Memphis, Tennessee through individual, semi-structured street-based interviews. Due to the difficulty of tracking mobile migrant workers fearful of legal consequences, the initial sample was convenience-based. The initial sample included twelve participants, and a process of snowball sampling rendered the final total sample of ninety participants. Due to potential language and literacy issues, the semi-structured interviews were conducted through an interpreter. As this research seeks to measure the victimization rates of a population not currently represented in the NCVS, respondents were asked a series of questions similar to those in the National Crime Victimization Survey<sup>6</sup>. Interviewers explained both the voluntary nature of participation and that there would be no legal consequences to participation.

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<sup>4</sup>In Memphis, once the police department has completed an investigation, any undocumented victims/offenders are turned over to INS/Homeland Security.

<sup>5</sup>The two primary violations of United States immigration laws are lack of a valid work visa (an offense labeled "entry without inspection"), and possession of an expired visa; these respondents would be considered guilty of entry without inspection.

<sup>6</sup>See Appendix 1 for interview script

## Measures

**Respondent Demographics.** Demographic measures included age, marital status, occupation, country of origin, and time in the US. All respondents were male.

**Respondent Residence.** Residence measures include whether respondents rent or own their residence, type of residence (house or apartment), number of people in residence, and length of time in current residence.

**Victimization.** Respondents were asked if they had experienced victimization in the form of theft, robbery, burglary, motor vehicle theft, violent attacks, and/or vandalism. Regarding these types of victimization, respondents were asked if they had been victimized, how many times, the location of the incident, what was taken, and whether they knew the offender.

**Offender Characteristics.** If the offender was known, respondents were asked how they learned of the offender, where the offender lived, and whether the offender had a weapon. Respondents were also asked for offender characteristics, including the offender's gender, age, race, gang affiliation, substance use, and relationship to the victim.

**Reporting of Crime/Police Involvement.** Respondents were asked a variety of questions about police involvement, including if/how police were informed of the incident, police action, and/or reason for non-reporting of the incident.

## RESULTS

### Descriptive Statistics

Descriptive results correspond overall to the expected demographic characteristics of a population of undocumented workers (Hansen, 2005). All respondents were Latino, and the majority of those surveyed reported Mexico as their home country. The majority of respondents were married, and the median age was 31 years. Most of the sample worked in the fields of construction and landscaping, and, as would be anticipated by Hansen (2005), all respondents reported that their employers paid them in cash.

Time in country and time in residence can be found in Table 1. All of the respondents claimed that they rented as opposed to owning their residence. Almost all, 83, reported that they rented an apartment. Only 4 participants claimed to live alone, 27 lived with one to two other people, 49 lived with three to four people, and 10 respondents reported living with five or more people. All but two of the respondents reported that they kept their cash in their residence. Table 1 shows the maximum amount of cash that respondents believed they had in their residence at any given time.

The majority of respondents (63%) reported having been a victim of a crime. Some respondents reported being the victim of more than one crime; this is represented in the results. Table 2 shows the breakdown of type of crime with frequencies and percentages.

The majority of thefts (92%) occurred at the home of the victim, five of the fourteen robberies happened at home (the rest were at work or in public), two of the nine violent attacks occurred near the home, two at work, and there were three who did not respond to the location

of their violent attack. All of the car thefts and all of the vandalism reportedly happened at home.

Of those who were victimized, thirteen (23%) said they knew the offender(s), twelve (21%) did not respond, and thirty-two (56%) did not know their offender(s). Four respondents (7%) reported that they lived with the offender(s) whereas thirty-six (63%) did not and seventeen (30%) did not answer. The age of the offender(s) and their race/ethnicity can be found in Table 2. All of the offenders were male. As noted above, 76% of the victims did not report being victimized. Only fourteen of the fifty-seven (24%) victims stated that the crime was reported to the police. Not only is that a low percentage, but when these crimes were reported, only one was reported by the respondent himself. The rest were reported by someone official such as a supervisor/landlord (5) or by someone else (8). Reasons varied for why the

**TABLE 1: DISTRIBUTION OF RESPONDENTS' OCCUPATION, TIME IN COUNTRY, TIME IN RESIDENCE AND AMOUNT OF CASH IN RESIDENCE**

Sample Characteristics		
<b>Occupation</b>	<b>Frequency</b>	<b>Percent</b>
Construction	45	50%
Landscaping	20	22%
Painting	13	14%
Custodial/Cleaning	9	10%
No Response	3	4%
<b>Time In Country</b>		
Less than 6 Months	5	6%
6 Months to a Year	19	21%
1-2 Years	37	41%
3-5 Years	27	30%
More than 5 Years	2	2%
<b>Time in Residence</b>		
Less than 6 Months	22	22%
6 Months to a Year	42	47%
1-2 Years	26	29%
<b>Amount of Cash in Residence</b>		
\$1-\$250	3	3%
\$251-\$500	16	18%
\$501-\$750	10	11%
\$751-\$1000	25	28%
\$1001-\$1500	18	20%
\$1501-\$2000	10	11%
More than \$2000	8	9%

**TABLE 2: DISTRIBUTION OF TYPE OF VICTIMIZATION AND OFFENDER CHARACTERISTICS**

<b>Type of Victimization</b>	<b>Frequency</b>	<b>Percent</b>
Theft	51	57%
Robbery	14	16%
Violent Attack	9	10%
Car Theft	3	3%
Vandalism	4	4%
<b>Offender Characteristics</b>		
Age		
12-14	3	5%
15-17	4	7%
18-24	11	19%
25-30	13	23%
31-40	11	19%
Over 40	2	4%
Don't Know	11	19%
No Response	2	4%
Race/Ethnicity		
Hispanic/Latino	18	31%
Black/African American	16	28%
White	3	5%
Don't Know	6	10%
No Response	14	26%

crimes were not reported, as shown in Table 3. It is evident from this distribution that most of the victims did not report the crime(s) because they did not trust the police or they did not want to get in trouble with the police or immigration services.

Of the fourteen crimes that were reported, the majority of those victims had negative interactions with the police. In three cases the police took a report and in two cases the police searched and looked around for suspects. However in four cases the victims themselves were arrested or detained; and in the five other cases the police did little or nothing. It is this kind of police interaction that contributes to the underreporting of victimization of undocumented workers.



**TABLE 3: DISTRIBUTION OF REASON GIVEN BY RESPONDENTS  
FOR NOT REPORTING VICTIMIZATION**

<b>Reason for Not Reporting</b>	<b>Frequency</b>	<b>Percent</b>
Private or Personal Matter	3	6.5%
Minor or Unsuccessful Crime	1	2.2%
Police would be Biased	11	24%
Didn't Want to get Offender in Trouble	2	4.3%
Advised not to Report	3	6.5%
Afraid of Reprisal by Offender(s)	9	19.5%
Didn't Want to get in Trouble with Police/INS	17	37%

Additional findings are groundbreaking in the understanding of victimization within this population. The data reveal three important patterns: the relationship between type of crime and time in country and/or residence, knowledge of offender and residence proximity, and reasons offered by victims for not reporting.

## **Victims**

Two of the most striking results from the data are the relationship between length of time in the U.S./victimization and length of time in current residence/victimization. Table 4 shows the cross-tabulations for time in country and time in residence and experience of theft, robbery, and violent attacks.

To further these findings, regression analysis confirms the relationship between time in country and time in residence with crime. The less time in country, the more likely it is that the undocumented worker will be victimized. The same can be said for time in residence; the lower amount of time in current residence, the more likely there is to be victimization. This could be the result of being a suitable target, perhaps due to lack of familiarity with the community and its risks or fear of the criminal justice system. Table 5 shows the standardized regression coefficients for when theft, robbery, and violent attacks are the dependent variable.

We find a similar strong relationship between cohabitants and crime. The more cohabitants an immigrant lives with, the more likely it is that he will be victimized. This relationship is shown in the cross tabulations in Table 4 and it supports the previously discussed data from the 2004 NCVS that provided evidence about the effects of number of residents in a

household. The regression coefficients explaining the effect of cohabitants on theft, robbery, and violent attacks are .401, .269, and .384 respectively.

**TABLE 4: PERCENT OF POPULATION REPORTING THEFT, ROBBERY AND VIOLENT ATTACK, BY TIME IN COUNTRY, TIME IN RESIDENCE AND NUMBER OF RESIDENTS IN HOME.**

Characteristic of Victim	Theft	Robbery	Violent Attacks
<b>Time in Country</b>			
Less than 6 months	80%	40%	20%
6 Months - Year	68%	16%	5%
1-2 Years	51%	14%	11%
3-5 Years	55%	15%	11%
5+ Years	0%	50%	50%
<b>Time in Residence</b>			
Less than 6 months	68%	45%	32%
6 Months - Year	43%	9%	2%
1-2 Years	35%	0%	4%
<b>Number of Residents in Home</b>			
Live Alone	45%	10%	25%
1-2 Cohabitants	52%	22%	10%
3-4 Cohabitants	57%	22%	7%
5+ Cohabitants	70%	1%	1%

Interestingly, despite the fact that all the participants were paid in cash and all kept cash in their residence, the amount of money kept in residence did not have a significant impact on whether or not the participants were victims of theft or robbery. Routine Activities theory would suggest that the more money kept in a residence, the more likely it is that the person would be victimized (Felson, 1998). Our data did not show this to be true for this population, perhaps because offenders were unaware the amount of money, such that keeping money in residence at all was the true risk factor.

## DISCUSSION

While attention has been paid to the offending rates of documented and undocumented immigrants, research on the victimization of this population is extremely limited. This paper makes an important first step by capturing the victimization experiences of undocumented male migrant workers. Due mostly to fear or lack of trust of law enforcement, the majority of crimes

**TABLE 5: OLS REGRESSION OF TIME IN RESIDENTS IN HOME, COUNTRY/RESIDENCE AND OTHER KEY VARIABLES ON ALL CRIME, THEFT, ROBBERY AND VIOLENT ATTACKS**

	<b>All Crime</b>	<b>Theft</b>	<b>Robbery</b>	<b>Violent Attacks</b>
Number of Residents in Home	.674* (.022)	.401* (.084)	.269* (.092)	.383 (.169)
Time in Country	-.406* (.021)	-.269* (.079)	-.326* (.086)	-.457* (.158)
Time in Residence	-.386* (.026)	-.244* (.099)	-.237* (.109)	-.423* (.199)
Age	-.118 (.053)	-.174 (.190)	.007 (.208)	-.126 (.281)
Money in Residence	-.130 (.106)	.412 (.152)	.196 (.140)	-.063 (.169)
Adjusted R-squared	.488	.643	.561	.612
N	57	51	14	9

committed against undocumented workers go unreported and unresolved. Offenders are therefore often aware that the victims will not contact police and could be more vulnerable targets. These workers are also paid in cash and tend to keep cash on their person or in their residence until they can use it for purchases or send it back to their families. Our findings support routine activities theory in that the combination of profit and ability to avoid consequence make undocumented workers prime targets for victimization.

It is important to understand that not only is there a lack of action on the part of the victims, but a lack of action from the criminal justice system. Police officers are not motivated to assist victims who are themselves technically criminals. Whether it is the robbery of a drug dealer or the burglary of an undocumented migrant worker, police officers do not expend resources to assist those who themselves violated the law. According to a local Memphis police officer, most police officers in this location simply turn the case over to immigration services. There are no “safe-zones” or ways that these workers can report victimization without fearing INS sanction. It is also difficult to find law enforcement agencies that provide agents who have sufficient training in other languages to deal with these types of victims. The lack of bilingual services, and/or the inadequacy of these services in the criminal justice system further contribute to the underreporting by victimized undocumented workers.

Beyond the front line law enforcement agencies, there is little being done at a policy or legislation level. Much of this can be attributed to the desire of law makers to appeal to public sentiment. They fear that providing outlets for reporting and protection of these victims would be perceived by the public as enabling illegal immigrants. This persists due to the larger issue of illegal immigration as a national ‘hot button’ political issue. Many policy makers are reluctant to support policies that could be viewed as sympathetic to undocumented migrant workers. Furthermore, there is no data to motivate law makers to make any changes as the leading source for victimization data (NCVS) fails to account for this population in the United States. This is a growing population and regardless of immigration laws and policies, it is the responsibility of the criminal justice system to protect, investigate, and sanction crimes committed both by and against those living in a given jurisdiction.

Some local community efforts are emerging to deal with undocumented victimization. Bridging The Gap (BTG) is a multi-dimensional Atlanta-based project that operates from the premise that the challenge of immigrant integration stems from cultural misunderstandings more than racial barriers. BTG uses two main strategies to reduce misunderstandings between immigrant communities and law enforcement. First, a crisis intervention program initiated to respond to 911 calls from non-English-speaking callers with more than twenty-five staff members who speak fifteen different languages. This effort signaled emergency services were willing and wanted to take calls from the immigrant community. Second was the Mediation Project, an education initiative for immigrants, landlords, and law enforcement to educate immigrants about social services, employment, and translation services to better interact with governmental institutions.

In addition to the examples found in the BTG project in Atlanta, there are other measures that the criminal justice system could take to assist undocumented workers who are victimized.

One method could be the establishment of a hotline for victimization that is not tied directly to the police department. Victims who fear or distrust the police would then have a government sponsored service to help them after being victimized. Another alternative would be to disconnect the police department from the INS and Homeland Security. In a post-9/11 world this alternative may not be entirely feasible, but if the operating procedures of police departments were changed in reference to undocumented workers, this might alleviate fear and distrust while simultaneously increasing reporting. Rather than turning undocumented victims over to immigration services, police could process the case as is and assist the victims as they would assist documented victims. Finally there could be victim assistance programs that are government funded but do not involve the police or immigration services. The program could potentially involve the aforementioned hotline and offer other forms of community outreach services. These would further assist victims by providing bilingual services as well as other resources that may help victims regardless of their race, ethnicity, or legal status.

This research is limited mostly in terms of potential generalizability. The study was done in one metropolitan area and only looked at male undocumented workers. Future research should look to other areas that vary on region and population, and should consider female undocumented workers. Another suggestion for future research is to expand beyond NCVS measures and measure victimization of this population with variables more conducive to further and varied statistical analyses. The research also is limited in terms of when the data was collected. In order to continue a more substantial discourse on the relationship between immigration status and victimization, more recent data would prove useful.

These findings highlight the experiences of undocumented male migrant workers, particularly the danger of criminal victimization associated with their illegal immigration status. These data can further help to inform policy as they call attention to ways in which immigrant status is likely to contribute to victimization, even as illegal immigrants are unlikely to engage in criminal acts themselves. Without such victimization data, we are left with an incomplete understanding of the undocumented migrant experience, and the human rights issues of those who are already politically and socially stigmatized will not be fully addressed.



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## APPENDIX 1: INTERVIEW SCRIPT

1. What country did you migrate from?
2. How long have you been in the United States?
3. What is your age?
4. What would you say is the main type of work do you do?
5. Are you paid in cash?
6. Are you married?
7. Do you rent or own your residence?
8. Is this a house or an apartment?
9. Does anyone live with you?

If so, how many people live with you?

10. How long have you lived in your current residence?
11. Do you keep cash money in your residence?

If so, how much money is in your residence at any given time?

12. Do you own a car?

## Crime

**I'm going to ask you about some crimes that may have happened to you. As I go through them, tell me if any of these happened to you in the United States in the last 6 months. People often don't think of incidents committed by someone they know, please include times when someone you know did something to you.**

13. Was something belonging to YOU stolen from your home, such as –

- (a) Things that you carry, like luggage, a wallet, purse, briefcase, book
- (b) Clothing, jewelry, or cell phone
- (c) Things in your home – like a TV, stereo, or tools
- (d) Things outside your home such as a garden hose or lawn furniture
- (e) Things from a vehicle, such as a package, groceries, camera, or CDs
- (f) Cash

13a. How many times has this happened?

14. Was something belonging to YOU stolen from your person, such as –

- (a) Things that you carry, like luggage, a wallet, purse, briefcase, book
- (b) Clothing, jewelry, or cell phone
- (c) Bicycle or sports equipment
- (d) Cash

14a. How many times has this happened?

14b. Where has this happened?

- (a) At home including the porch or yard
- (b) At work
- (c) At or near a friend's, relative's, or neighbor's home
- (d) Other

15. Have you been physically attacked or threatened?

- (a) Include any grabbing, punching, or choking
- (b) Any face to face threats
- (c) Any attack or threat or use of force by anyone at all



15a. How many times has this happened?

15b. Where did this happen?

- (a) At home including the porch or yard
- (b) At work
- (c) At or near a friend's, relative's, or neighbor's home
- (d) Other

16. Have you had any of your property (car or home) damaged?

- (a) Include anything that was intentionally broken or damaged
- (b) Include any painting, scratching, etc.

16a. How many times has this happened?

17. Have you had your car or vehicle stolen?

17a. How many times has this happened?

17b. Where did this happen?

- (a) At home including the porch or yard
- (b) At work
- (c) At or near a friend's, relative's, or neighbor's home
- (d) Other

### **Offender Data**

18. Did you personally see an offender?

19. Did you live with the offender?

20. Was the offender male or female?

21. How old would you say the offender was?

22. Was the offender a member of a street gang, or don't you know?

23. Was the offender drinking or on drugs, or don't you know?  
Which was it? (Drinking or on drugs?)

- 24. Was the offender someone you knew or a stranger you had never seen before?
- 25. How well did you know the offender? For example, was the offender a friend, cousin?
- 26. Was the offender White, Black, Latino or some other race?
- 27. Was this the only time this offender committed a crime against you or your household or made threats against you or your household?
- 28. How many offenders?

**Police**

- 29. Were the police informed or did they find out about this incident in any way?
- 30. How did the police find out about it?
- 31. Did the police come when they found out about the incident?
- 32. What did they do while they were (there/here)?

Anything else?

- 33. What did the police do in following up this incident?

Anything else?

- 34. What was the reason it was not reported to the police? (Can you tell me a little more?)

Any other reason?

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## BIOGRAPHICAL SKETCHES

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## **SOCIAL DISORGANIZATION AND REGISTERED SEX OFFENDERS: AN EXPLORATORY SPATIAL ANALYSIS**

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### *Abstract*

*The purpose of the present study is to provide an examination of the social disorganization factors that are associated with residential locations of registered sex offenders (RSOs). Specifically, this study considers the locations where RSOs reside, whether or not they tend to reside in clusters, and whether or not clusters of RSOs are associated with greater disadvantage. Using data from all RSOs in Chicago in 2009 this study examines the characteristics of communities where RSOs cluster, focusing on assessing the degree to which social disorganization measures are associated with RSOs' residential patterns. Additionally, we examine these patterns for RSOs who reside within 500 feet of a school property or park. Results reveal there are clusters of RSO residential locations both in general and for those living within 500 feet of a school or park. Additionally, the strongest measures of social disorganization that are associated with these clusters are lower median housing income, community poverty, unemployment, and vacant housing.*

## **INTRODUCTION**

Concerns about public safety and how best policymakers, law enforcement officials, family members, and communities in general can protect potential victims (especially children) from sexual predators is commonplace in contemporary discourse. As the supposedly worst of the worst, sex offenders today face strict sentencing, post-release monitoring, community

notification of their release and re-entry, lengthy and public registration procedures and in many jurisdictions restrictions on where they may live, work and spend time. Such efforts have been shown to have the overall effect of relegating sex offenders to communities that have myriad other social problems, notably greater social disadvantage and disorganization (Mustaine & Tewksbury, 2006). Theoretically, these communities, because of their higher levels of social problems and disadvantage are less able to collectively guard against and respond to the threats that encroach upon them (e.g., crime and criminals). In turn, these types of communities become the only locations where the socially undesirable are able to live. The present study seeks to examine these theoretical connections, by analyzing the residential locations of registered sex offenders in Chicago geographically and spatially.

In the years following the passage of the Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act (1994), Megan's Law (1996), The Pam Lychner Sexual Offender Tracking and Identification Act (1996), and the Adam Walsh Child Protection and Safety Act (2006), 30 states and hundreds of cities have passed laws restricting where sex offenders may live. Today it is illegal for sex offenders in these jurisdictions to live within a specified distance of schools, daycares, playgrounds, or other such child congregation locations. Some researchers have addressed how these laws have negatively impacted the workload of probation and parole officers (Zevitz & Farkas, 2000) while others have examined the potentially detrimental impacts these laws and their consequences have on sex offenders (Burchfield & Mingus, 2006; Levenson & Cotter, 2005; Tewksbury, 2004, 2005; Tewksbury & Lees, 2006; Tewksbury & Mustaine, 2006; Tewksbury & Zgoba, in press; Zandbergen & Hart, 2006, 2009; Zevitz & Farkas, 2000).

Sex offender registration has been clearly shown to have accompanying collateral consequences (Burchfield & Mingus, 2006; Levenson & Cotter, 2005; Mercado, Alvarez, & Levenson, 2008; Tewksbury, 2004, 2005; Tewksbury & Lees, 2006; Tewksbury & Mustaine, 2006; Tewksbury & Zgoba, in press; Zandbergen & Hart, 2006; Zevitz & Farkas, 2000). Included are difficulties in finding and maintaining employment, relationship difficulties, public recognition and harassment/attack, and difficulties finding and maintaining suitable housing. The housing issue has received the most attention, largely because it is a product of both social processes (Tewksbury & Lees, 2006) and official restrictions on where registered sex offenders (RSOs) are legally permitted to live (Zandbergen & Hart, 2009). Consistently, researchers have found that RSOs are relegated to the most socially undesirable neighborhoods, and sometimes banned from cities altogether (Grubestic, Mach, & Murry, 2007; Mustaine & Tewksbury, 2006). Additionally, prior research suggested that housing difficulties are more consequential to sex offenders than they are to other types of ex-offenders (Hughes & Burchfield, 2008).

Other identified consequences of residential restrictions for sex offenders included that they create housing instability and limit access to employment opportunities, social services, and social support (Levenson & Hern, 2007). Real estate markets are also affected by residency restrictions. Linden and Rockoff (2006 p.39) suggested that "as sex offenders are increasingly clustered in specific areas, respective real estate value will start to decrease. This decrease in



value will also influence neighborhood transition and ultimately lead to high levels of social disorganization.”

Many housing restrictions include circumference zones around child congregation locations where sex offenders may not live. Consistently, research has found that significant proportions of sex offenders are, or if restrictions were imposed would be, in violation of their restrictions. These studies include those using mapping methodologies (Barnes, Dukes, Tewksbury & DeTroye, 2009; Chajewsky & Mercado, 2009), self-reports from RSOs (Tewksbury & Zgoba, in press; Zgoba, Levenson, & McKee, 2009), and physical inspections of RSOs' addresses (Mustaine & Tewksbury, 2006). Further, a moderate amount of sex offenders would have to move if certain residential restrictions were implemented (Barnes, et al., 2009). Implementation of residential restrictions may affect large proportions of RSOs (Zandbergen & Hart, 2006, 2009), although others contend differently (Grubesik, Mack, and Murray, 2006). In particular, research has examined the concentration of RSOs that reside near schools. Consistently, this body of work has found that more schools are located in socially disadvantaged neighborhoods, and since this is where RSOs are relegated, they are more likely to reside near schools. However, sex offenders who victimize adults are more likely to live near schools than offenders of children (Chajewsky & Mercado, 2006; Zgoba, Levenson, & McKee, 2009).

As a result of the influx of laws restricting residential locations for registered sex offenders, their living situations are not static or long-term. As many as one-half of all RSOs change their residences either between the time they are apprehended and when they appear on a sex offender registry, or while they are registered (Levenson, 2008; Levenson & Cotter, 2005; Mustaine, Tewksbury & Stengel, 2006b; Turley & Hutzler, 2001). When they relocate, large proportions (especially of non-white RSOs) move to less desirable, more socially disorganized locations (Mustaine, et al., 2006b; Tewksbury & Mustaine, 2007). Such consequences are the product not only of law and economics, but also of the informal social control exercised by residents of more affluent neighborhoods (Hughes & Burchfield, 2008). Because of residential restrictions, many sex offenders are, in effect, legally prevented from finding and maintaining affordable housing (Collins, 2007; Geraghty, 2007; Koch, 2007; Levenson & Cotter, 2005b; Levenson & Hern, 2007; Tewksbury, 2004, 2005; Zandbergen and Hart, 2006, 2009).

Taking this residential pattern further, Mustaine, Tewksbury and Stengel (2006a) showed that neighborhoods with especially high levels of social disorganization tend to contain higher concentrations of RSOs (also see Mustaine & Tewksbury, 2008; Tewksbury & Mustaine, 2006, 2007). Specifically, in neighborhoods with higher numbers of RSOs, there also tended to be higher proportions of non-white residents, higher unemployment, lower educational achievement, higher poverty rates, lower rates of home ownership, and lower median housing values (Mustaine, et al., 2006a; Mustaine & Tewksbury, 2008). This pattern suggests that the residential locations of RSOs may show geographic clustering patterns that are similar to other locational clustering patterns that are typically present in cities. For example, residential neighborhoods tend to be situated in clusters around the city. Industrial neighborhoods are also clustered, but they tend to be gathered in different locations than residential neighborhoods (as

opposed to residences and industrial buildings being randomly geographically located). Additionally, certain types of people (e.g., those who are affluent vs. those who are more disadvantaged), are also clustered in proximal locations. In sum, the residential locations of individuals are not random and are typically found in geographic clusters where people with certain social characteristics are proximal to other individuals with similar social distinctions. Such are the relationships identified in social disorganization theory as part of its discussion around residential patterns and how they influence crime in those areas.

### **Social Disorganization Theory**

Social disorganization theory, developed by the Chicago School theorists of the 1940s (Shaw & McKay, 1942), strives to explain why some communities have higher crime rates than others. When communities are highly organized – for example, when social institutions such as schools, churches, businesses, law enforcement agencies, government and informal networks of friends, family and acquaintances are strong and positively active – the community has effective communications among members and there is effective organizing, mobilizing, and working together to respond to and prevent undesirable conditions and behaviors, including criminal activities. Such a condition is what Sampson and colleagues (1997) have coined “collective efficacy”. Therefore, when crime is abundant in a community it is the result not of motivations of individuals found there, but rather of ineffective or absent social institutions and social organizing against criminals—a lack of collective efficacy and lack of guardianship.

### **SOCIAL DISORGANIZATION THEORY AND THE RESIDENTIAL LOCATIONS OF REGISTERED SEX OFFENDERS**

As may be expected, both theoretically and intuitively, another consequence for neighborhoods with low levels of social organization and collective efficacy (besides higher crime rates) is the growing presence of individuals who are less socially desirable, more socially stigmatized, and/or more socially loathed residing within. It is the very circumstance of the neighborhood being less organized and having less collective efficacy that allows these social pariahs to come and live in the area.

With the advent and proliferation of residential restriction laws for sex offenders the available housing options open to sex offenders are significantly restricted (Hughes & Burchfield, 2008; Zandbergen & Hart, 2006, 2009). Housing options may be especially limited for this population as the available properties (e.g., those not within a restricted zone around schools, parks, daycare centers, etc.) are most limited in less affluent, more socially disorganized neighborhoods (Hughes & Burchfield, 2008). Consequently, sex offenders are relegated away from affluent neighborhoods by economics and resident mobilization and from more disadvantaged neighborhoods by legal restrictions. Then, due to these barriers which leave few housing choices and simple practicality (RSOs have to live somewhere), sex

offenders may find themselves being in violation of residential restrictions, because that is where they can afford to live.

However, even in communities without laws restricting RSOs' residential locations, social patterns have still been credited with relegating many such offenders to only the least desirable neighborhoods. As shown through multiple methodologies (mapping, self reports and physical inspection of addresses), RSOs are most often found in socially disorganized neighborhoods characterized by vacant lots, litter, high unemployment, higher rates of poverty, lower educational attainment, lower housing values, higher rates of non-white residents, lower median incomes, more vacant houses, and less housing being occupied (Burchfield & Mingus, 2006; Levenson & Cotter, 2005; Mustaine & Tewksbury, 2006; Tewksbury, 2004, 2005; Tewksbury & Lees, 2006; Tewksbury & Mustaine, 2006; Zandbergen & Hart, 2006; Zevitz & Farkas, 2000). In sum, both legal and informal social forces appear to have been highly effective in limiting housing options for RSOs, effectively relegating this socially undesirable population to communities with the least social capital, collective efficacy, and desirability.

### **Spatial Analysis of the Residential Location of RSOs**

Mapping the social locations of offenders is not new, nor is the finding that offenders tend to be concentrated in geographically proximate areas (Mears & Bhati, 2006; Shaw & McKay, 1942; Sherman, Gartin, & Buerger, 1989). But, mapping the social and geographical locations of sex offenders is a relatively new area in the growing literature. For example, in a spatial analysis of RSOs in Nebraska and Oklahoma, Hughes and Kadleck (2008) examined the relationship between the characteristics of communities and residential locations of sex offenders. Their findings were expected in that, for both states, neighborhoods that the researchers identified as "affluent" had fewer sex offenders in residence, and with each unit increase in affluence, there was a 25% decrease in Oklahoma and a 85% decrease in Nebraska in the number of sex offenders in residence. Additionally, neighborhoods that the researchers identified as "disadvantaged" had higher concentrations of sex offenders in residence and with each increase in disadvantage, there was an associated 37% (NE) and 33% (OK) increase in the number of sex offenders in residence. Hughes and Kadleck (2008) attributed these differences to affluent communities' ability to mobilize against sex offenders (as well as other social problems), thus relegating these outcasts into more socially disadvantaged neighborhoods. As a consequence, such clustering in more socially disadvantaged neighborhoods could become a devastating self-fulfilling prophecy: with more sex offenders in residence community members may feel powerless to stop the influx and resort to withdrawing from social activities, neighborhood events, and neighborly conversations. This social withdrawal of residents would in turn lead to an increase in social disorganization and criminal behavior. Hughes and Kadleck (2008) further argue that this spatial clustering of offenders is not unique to sex offenders, but is in fact common for all ex-offenders. Nonetheless, the presence of sex offenders may be more detrimental to communities because their presence is known and so strongly vilified.

Hughes and Burchfield (2008) conducted a similar mapping analysis for the city of Chicago. Here, they examined residential locations of sex offenders of minors and their relationships with measures of social disorganization. In Chicago, there are proscriptions for child offending sex offenders to reside within 500 feet of schools, parks, daycares, etc., as well as state correctional department stipulations that no sex offenders, regardless of age of victim, can “reside near, visit, or be in or about parks, schools, daycare centers, swimming pools, beaches, theaters, or any other places where minor children congregate without advance approval of an agent of the Department of Corrections” (Unified Code of Corrections, ILCS CH. 730, § 150/8, 2005 as cited in Hughes & Burchfield, 2008). Although Hughes and Kadleck (2008) and Hughes and Burchfield (2008) consider different questions using different analyses, both projects yielded similar results. Sex offenders were more likely to be living in disadvantaged neighborhoods, but these same neighborhoods were also the ones with higher proportions of schools and parks present. Thus, in disadvantaged neighborhoods, there was less physical space available in which sex offenders could legally live. Affluent neighborhoods had more space available, but residents of these types of communities were also more readily able to mobilize and protect themselves against socially undesirable elements.

In sum, this newer body of work relating social disorganization and the residential locations of registered sex offenders through the use of mapping analysis techniques greatly contributes to our increased understandings about the social relegation of undesirables into socially disorganized neighborhood and the collateral consequences of registration for sex offenders. This relegation threatens to further exacerbate the problem of sexual offending. Socially disorganized neighborhoods are those that by definition may have the least degree of social capital and lowest ability to informally monitor neighborhood children’s behaviors in efforts to protect them from sexual predators. However, while the existing body of literature has focused on the consequences of the relegation process, there have been fewer efforts to examine how this process may operate. Simply knowing that RSOs commonly end up in socially disorganized neighborhoods is one issue; understanding specific spatial patterns to their residences, both in and away from socially disorganized neighborhoods, is another critical issue for understanding both the consequences RSOs experience and how policy can most effectively be implemented in pursuit of public safety.

## **The Present Study**

The present study seeks to contribute to the literature in several ways. First, we add to the literature on social disorganization theory by examining the community characteristics that are associated with high density locations of RSO residences. Here, we look at describing characteristics of census tracts with concentrations of RSOs, and the contributory strength of measures of social disorganization on these residential clusters. Second, we examine the locations of all schools and parks in Chicago area so as to provide information about the amount of residential space available in which RSOs may legally live. Third, in our examinations we use buffer zone analysis of the school property and parks polygon so that we are adhering to

Zandbergen's (2008) call to examine the residential locations of RSOs by utilizing the outer boundaries of properties, rather than from points in the middle of properties. Fourth, we do these examinations for any clustering of RSO residences in general, as well as those RSOs residing within 500 feet of a school property (thus, being in violation of their living restrictions).

## Data and Methods

Data on all 3,021 sex offenders listed on the Illinois sex offender registry in April 2009 with listed addresses in Chicago, Cook County, Illinois are used in these analyses. Residential addresses, while assumed to be reliable may have some limitations. There were 353 cases with no address related to the RSO who were in jail, homeless, and moving. These cases were removed from the analysis. The street layer data comes from TIGER /Line files. The TIGER (Topologically Integrated Geographic Encoding and Referencing) files are extracts of geographic and cartographic data from the Census Bureau. TIGER / Line records contain latitude / longitude coordinates and address ranges. TIGER street files were used to geocode (used a composite address locator<sup>1</sup>) the addresses since the data is accessible freely to any community in the United States. This data is definitive and the most recent GIS data set for the United States. A detailed digital map of the United States, including the ability to look up addresses, could therefore be created through processing of the TIGER/Line files (Clutter and Bajcsy, 2004). But the greatest advantage of this data is they are reliable, valid, and official.

Chicago census tract data were obtained from US Census Bureau. Three types of community level data were used in the study: 1. Chicago census tract and neighborhood polygon or lattice data, 2. Chicago street centerline arc data, and 3. Chicago land use data (source: <http://www.library.northwestern.edu/map/GISillinois.html#chicago> ). Census tract boundaries are the approximate conversion of census bureau polygon data. Street center line data were clipped with Chicago census tract, land use and neighborhood polygon data to create a base map of the city of Chicago with streets, highways and census tract variables. RSO address level details were geocoded and overlaid in the base map. Address matching indicated 6% (169) unmatched addresses of sex offenders when addresses were geocoded with the TIGER/Line files. However, we were able to match 91% (2427) of all cases and 3% (72) of the cases were tied. The actual number of registered sex offenders is much larger (3021), thus these unmatched (6%) and deleted offenders (homeless and those in jail - 11% of the total) in the analysis are unlikely to alter the findings significantly (Barnes et al, 2008).

Census tract data, including the percent of households living below the poverty line,

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<sup>1</sup>Geocoding using composite address locator: Tiger data had primary names for streets and some had alternate names. Composite addresses locator was created by 1. Primary address locator using Primary Street names 2. Secondary address locator using Alternate Street names (If address is "unmatched" in the Primary Address Locator it is then checked against the Secondary Address locator. Due to limitations of getting parcel data, US Streets in ArcGIS was used to build the address locators.



percent of residents unemployed, the percent of occupied housing, the percent of vacant housing, the median household income, total population for the census tracts, percent white, percent African-American, percent others, percent land vacant, and percent livable area were collected from the 2000 Census for each census tract in the city.

Using the spatial join function in ArcGIS, counts of total RSOs per census tract and total RSOs with addresses within a 500 foot radius of a school property and park were calculated. Also, we calculated the total area within a 500 foot radius from school properties and parks representing the 'restricted area', and the 'livable area' outside of a 500 foot radius of school property and parks within the residential land use area. We used GEODA to get the standard deviational maps<sup>2</sup>, local spatial autocorrelation (LISA)<sup>3</sup>, Moran's I<sup>4</sup> auto correlation and spatial regression<sup>5</sup> models. Spatial weights<sup>6</sup> were created based on Queen Contiguity. Queen Contiguity is preferred over Rook contiguity because it includes all common points. Spatial weights based on Queen Contiguity always have a denser connectedness structure (more neighbors) (Anselin, 2003). Spatial weights are essential for the computation of spatial autocorrelation, and spatial regression. Local Spatial Autocorrelation (LISA) is based on local Moran statistics (Anselin, 1995) and this yields a measure of spatial autocorrelation for each individual location. "Arguably the most useful graph is the LISA cluster map" (Anselin, 2005, p. 140). Cluster maps provide significant location by type of spatial autocorrelation.

## **Findings:**

The unit of analysis is all census tracts (n=876) in the city of Chicago. Figure 1 represents residential locations of RSOs in Chicago. The green dots represent RSOs' residential locations. The red dots indicate the residential locations of those RSOs who were located within the 500 foot radius of school property and/or parks. Due to limitations of getting parcel data, US Streets in ArcGIS was used to build the address locators. This may affect the count of RSOs within 500 ft radius of school property and parks which is one limitation of this analysis.

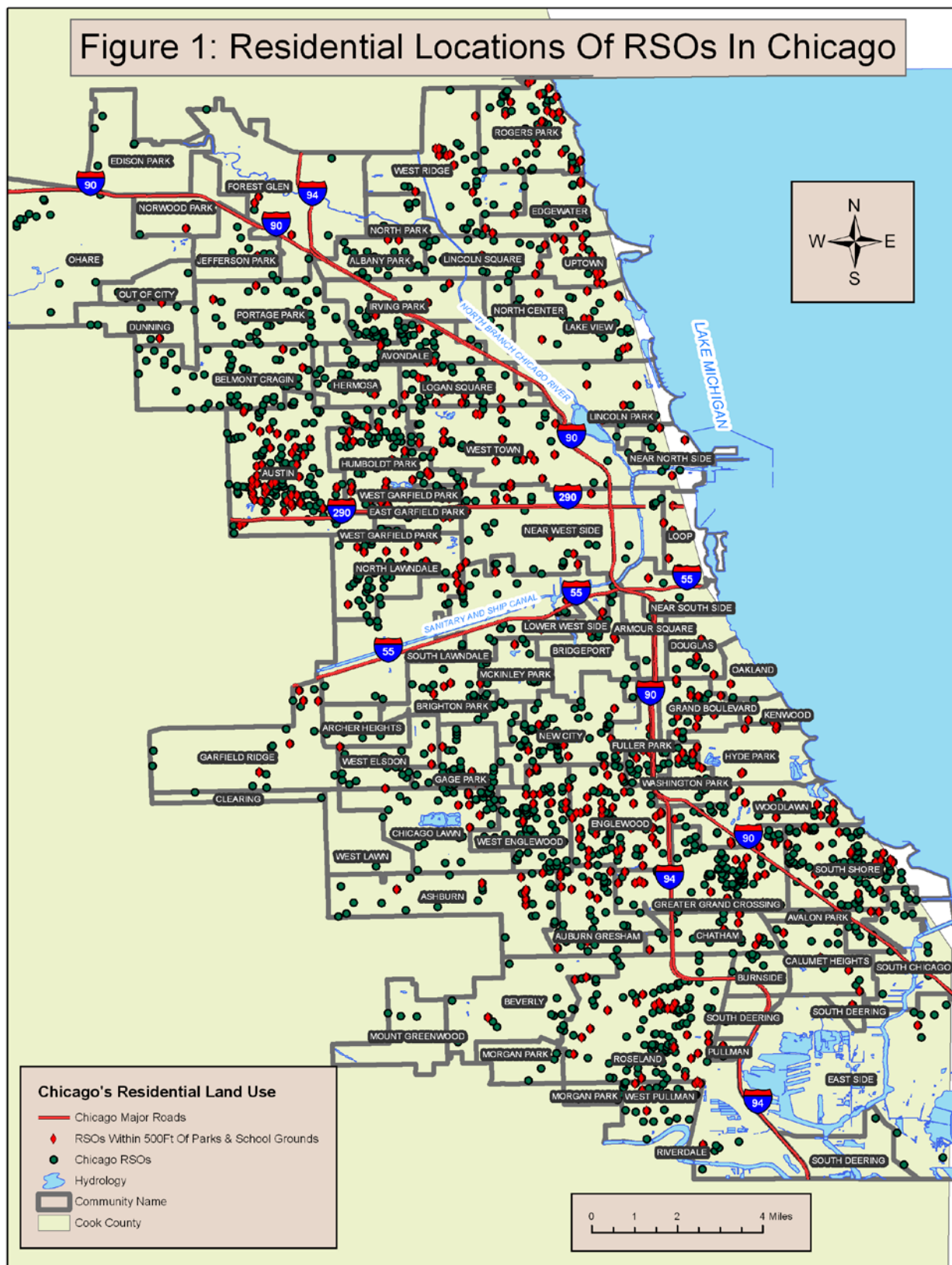
The density map using Kernel Density Estimate (KDE)<sup>7</sup> of RSOs is shown in Figure 2. The KDE was used with a search radius of one square mile. The results indicate the presence of RSO clusters. There are 7 to 8 high-density hotspots for residential locations of RSOs. The top high-density hotspot was near the East Garfield Park neighborhood with 37 RSOs in total. The close view of the high density residential location of RSOs near East Garfield Park is shown in Figure 3.

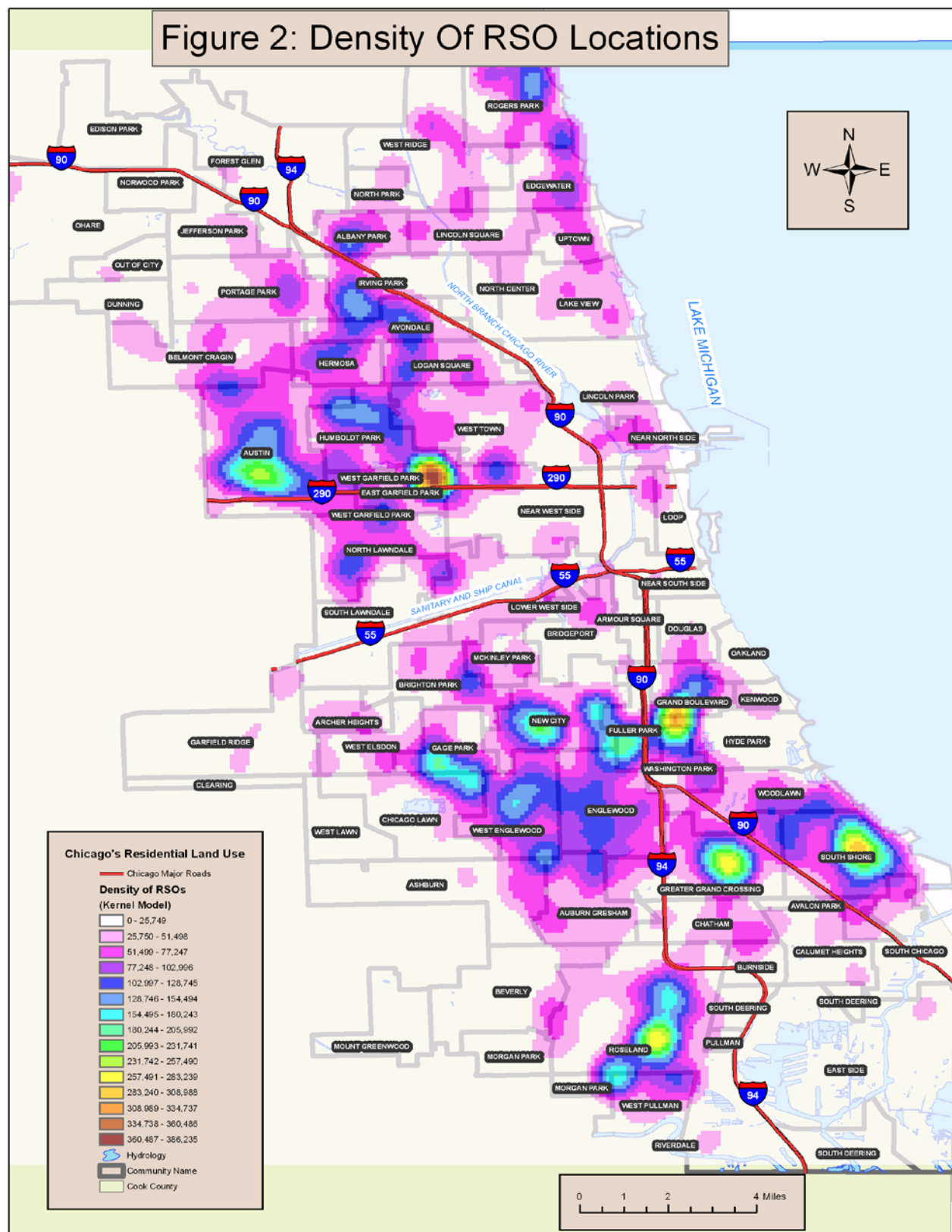
KDE results indicate the area of influence is associated with factors contributing to the clustering pattern of RSOs. These areas are affected by various factors of disorganization

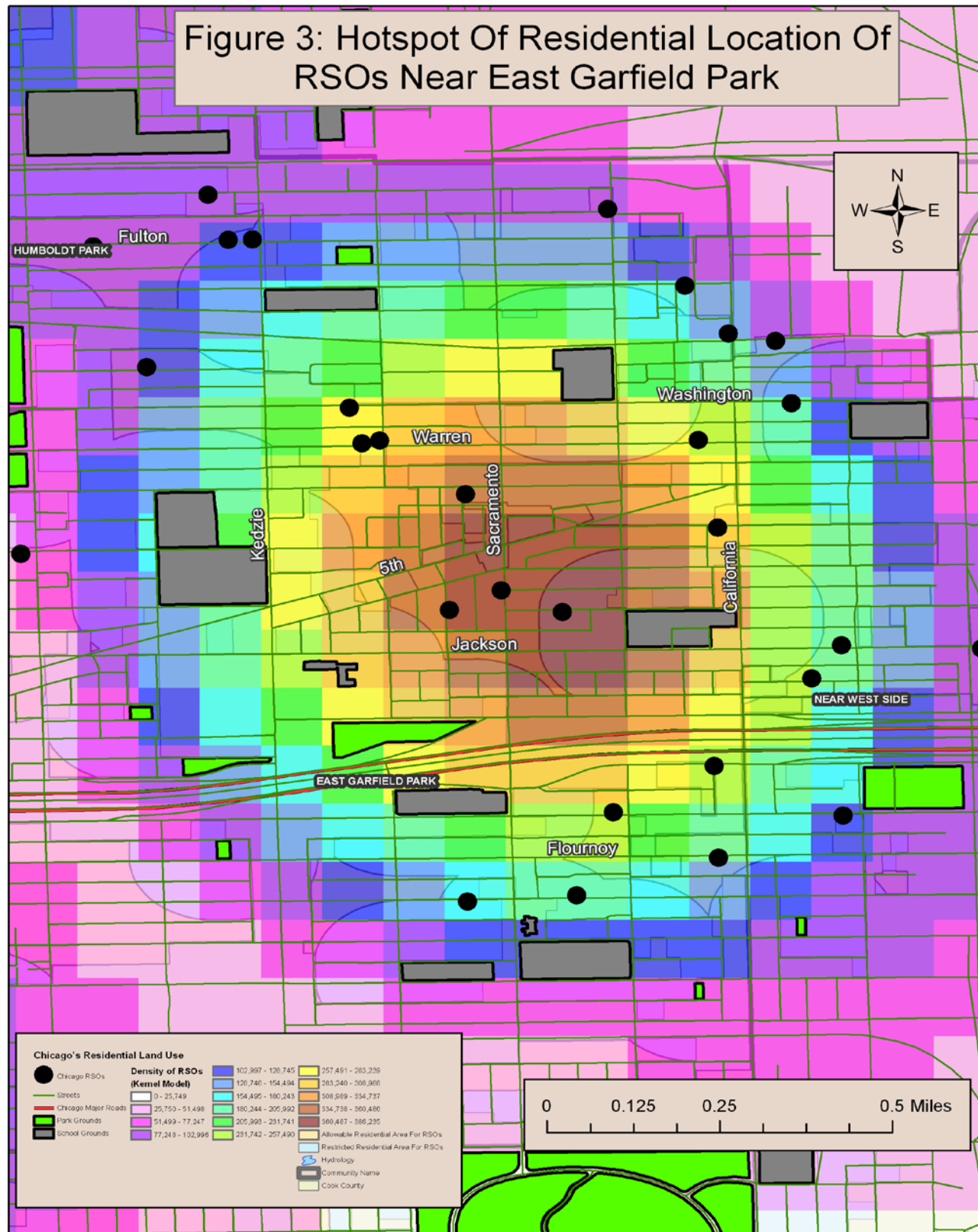
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<sup>2</sup>A standard deviational map groups observations according to where their value fall on the standardized range, expressed as standard deviational units away from the mean. A standardized variable has a mean of zero and a standard deviation of 1, by construction. Hence a standardized value can be interpreted as multiples of standard deviational units (Anselin, 2003). Number of data in each category depends on the distribution of the data. Areas with points more than 2 standard deviations are spatial outliers. Darker shades in the standard deviational map imply spatial outliers with higher density RSO locations. All standard deviational maps are created using GEODA.

### Figure 1: Residential Locations Of RSOs In Chicago









which may have a greater influence on nearby areas in the long run.

Figure 4 presents the density map employing Kernel Density grid of the RSOs within the 500 foot radius of school properties and/or parks. The KDE was used with a search radius of eight square miles. There are several highly dense concentrations, with the densest appearing near the Austin neighborhood. A close view of this hotspot is shown in Figure 5. The red spots are the residential locations of RSOs within a 500 ft radius from a school property and/or parks. Greater concentration of RSOs within a 500 ft radius from school properties and/or parks is seen along the I-290 interstate in Austin and East Garfield Park neighborhoods. The Austin and East Garfield park neighborhoods can be referred to as ‘spatial outliers’. There are 37 similar census tracts to be characterized as spatial outliers in the city of Chicago for all RSOs in total where the RSO count per census track is more than mean plus 3 standard deviations.

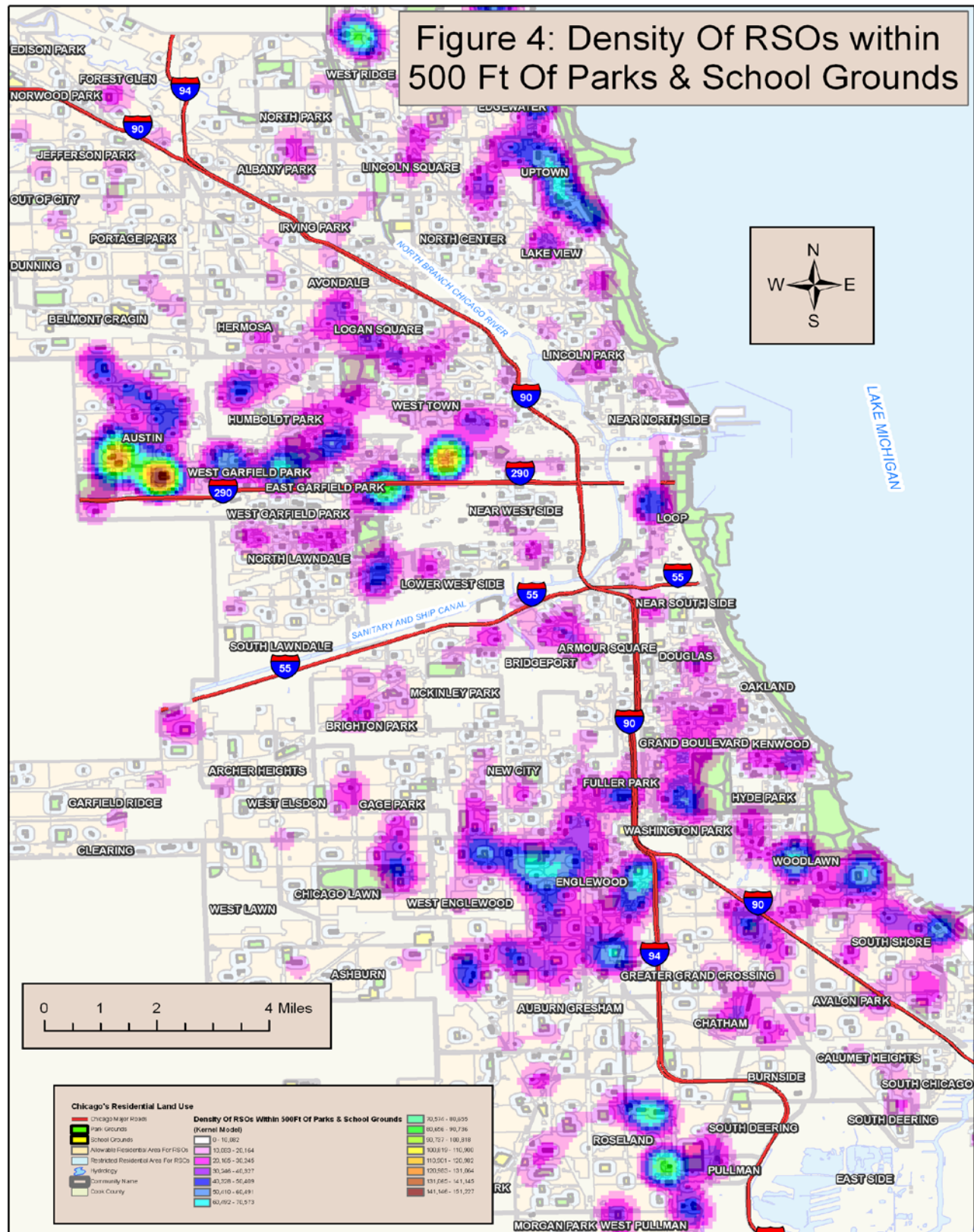
Figure 6 is the standard deviational map of the residential RSOs in Chicago. In Figure 7, the mean count of residential locations per census block is 2.74. Mean plus three standard deviations indicates spatial outliers (37 census tracts) and is shown in dark red. The standard deviational map of spatial outliers for RSOs within a 500 foot radius of a school is shown in Figure 7. There are 57 census blocks with at least two RSOs who live within a 500 foot radius of a school property and/or park. Those spatial outliers are represented in dark red in Figure 8. Similar results of spatial clusters and spatial outliers are identified by using Local Spatial Autocorrelation (LISA) maps. The spatial outliers indicated in the standard deviational maps correspond to the high-high (positive local spatial autocorrelation referred to as spatial clusters) locations in the LISA maps.

Figure 8a and 8b presents the land area (peach color) available for living outside of the 500 foot buffer zones from school properties and/or parks. The restricted area<sup>8</sup> (500 ft radius of school properties and parks) is shown in purple. The actual restricted area is much larger than the restricted area accounted in this analysis. The areas shown in light green are non residential land use areas. In order to get a better view of the map, the map is divided into 2 parts one representing the North and other South of Chicago with the match line in the center.

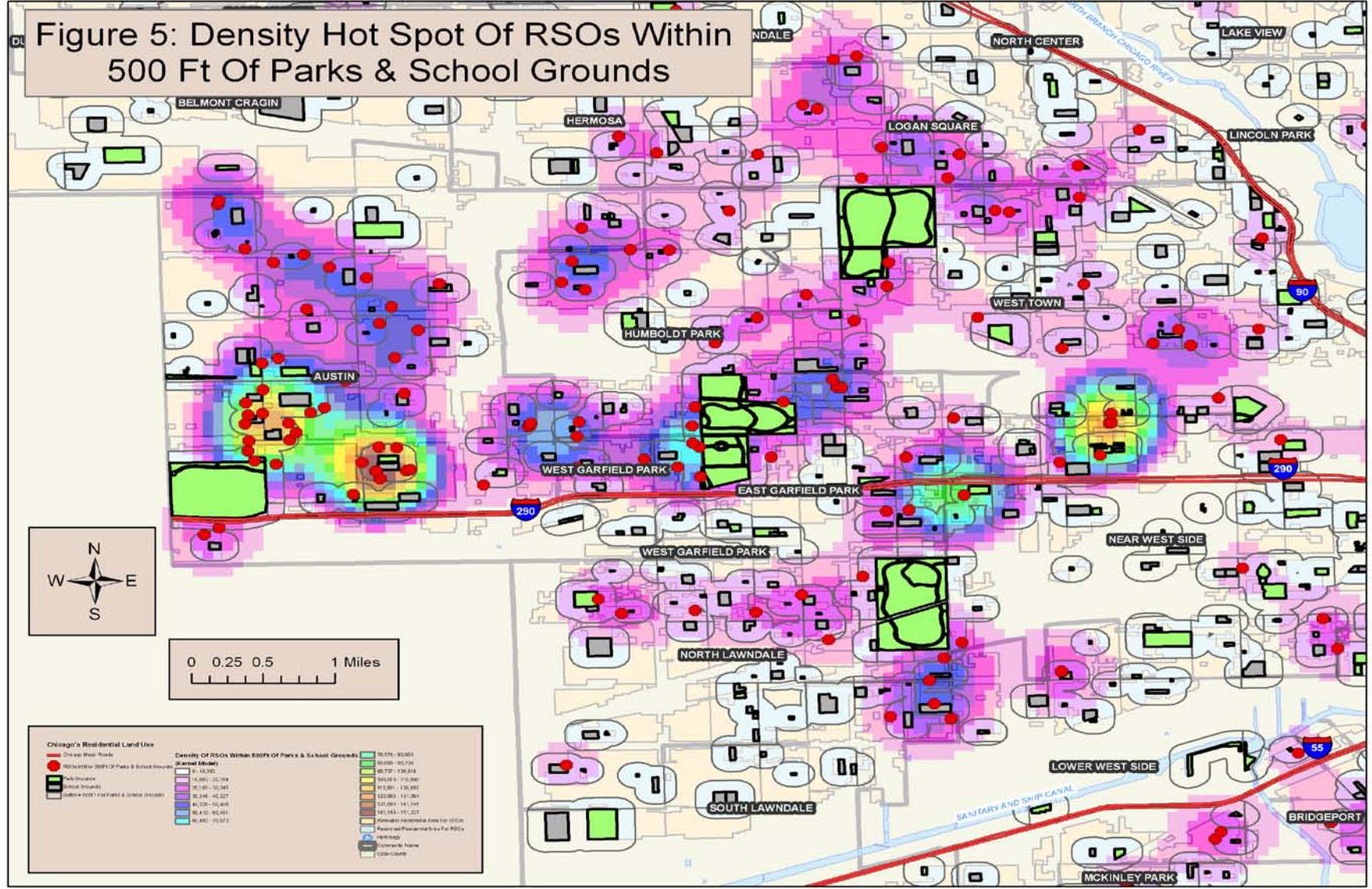
As a result of the laws restricting residential locations for registered sex offenders, the land area livable for RSOs is restricted and that forces them to relocate to less desirable and socially disorganized areas, which may lead to more clustering of RSOs in socially disorganized neighborhoods. Unless structural and social transformations through suitable economic and social revitalization programs occur, these neighborhoods are more likely to be the hotspots of RSOs. Failure to do so does not provide “spatial justice” and in effect, dooms certain areas of the city to be zoned for crime (Rengert 1989). In sum, RSOs are prevented from finding affordable housing in areas with better social control and guardianship. Taken as a whole, legal restrictions and social pressure effects can combine to create a “ghetto culture” that stresses

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<sup>3</sup>Local Spatial Autocorrelation (LISA) maps are available upon request from the first author. LISA cluster map is a special choropleth map showing the locations with a significant Local Moran Statistic classified by type of spatial correlation: bright red for the high-high association, bright blue for the low-low association.







**Figure 6: Standard Deviation Map of the Residential RSOs in Chicago**

Std Deviation: RSOCOUNT

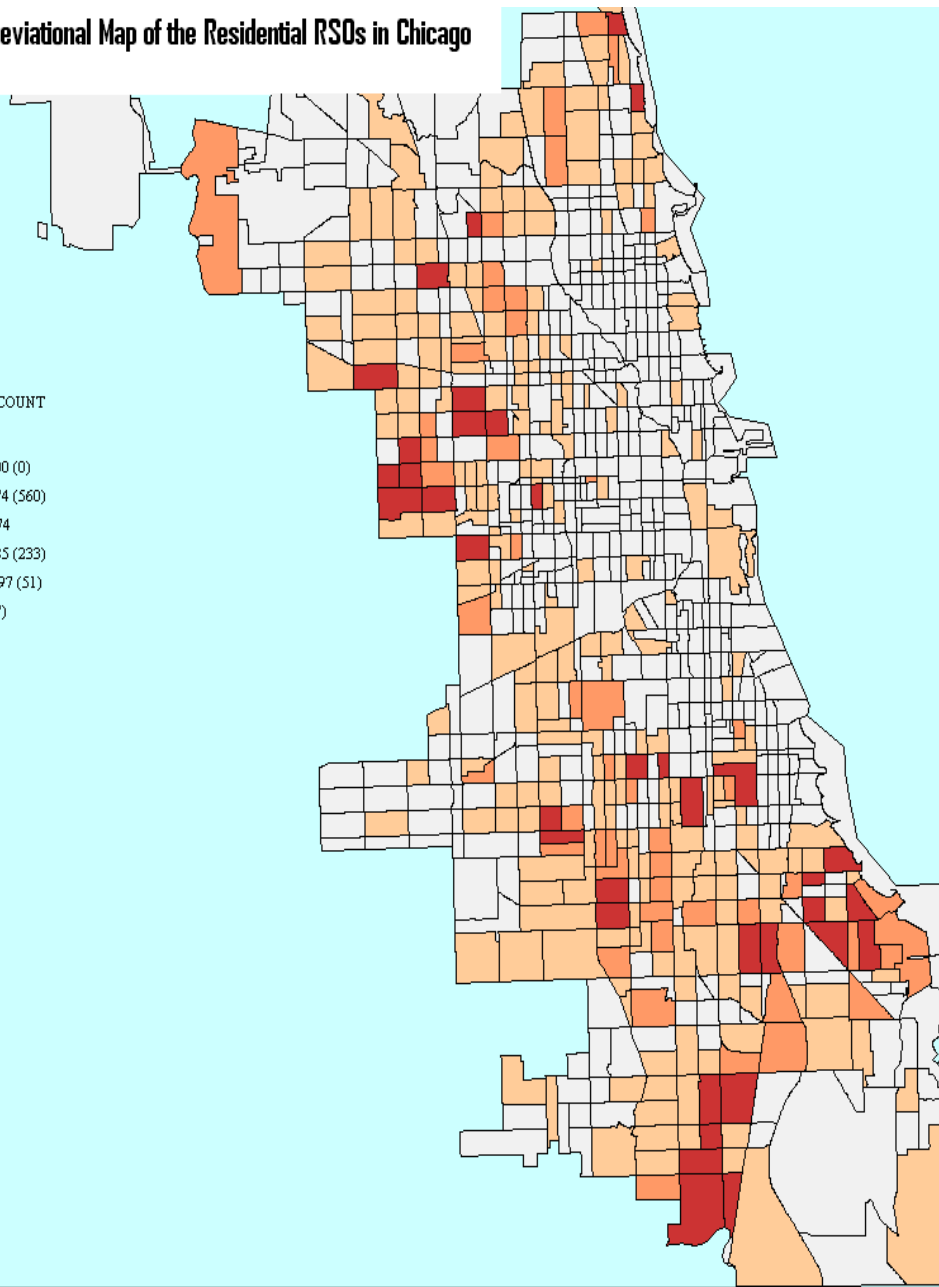
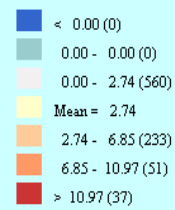


Figure 7: Standard Deviation Map of the Residential RSOs within 500 ft of Schools and Parks in Chicago

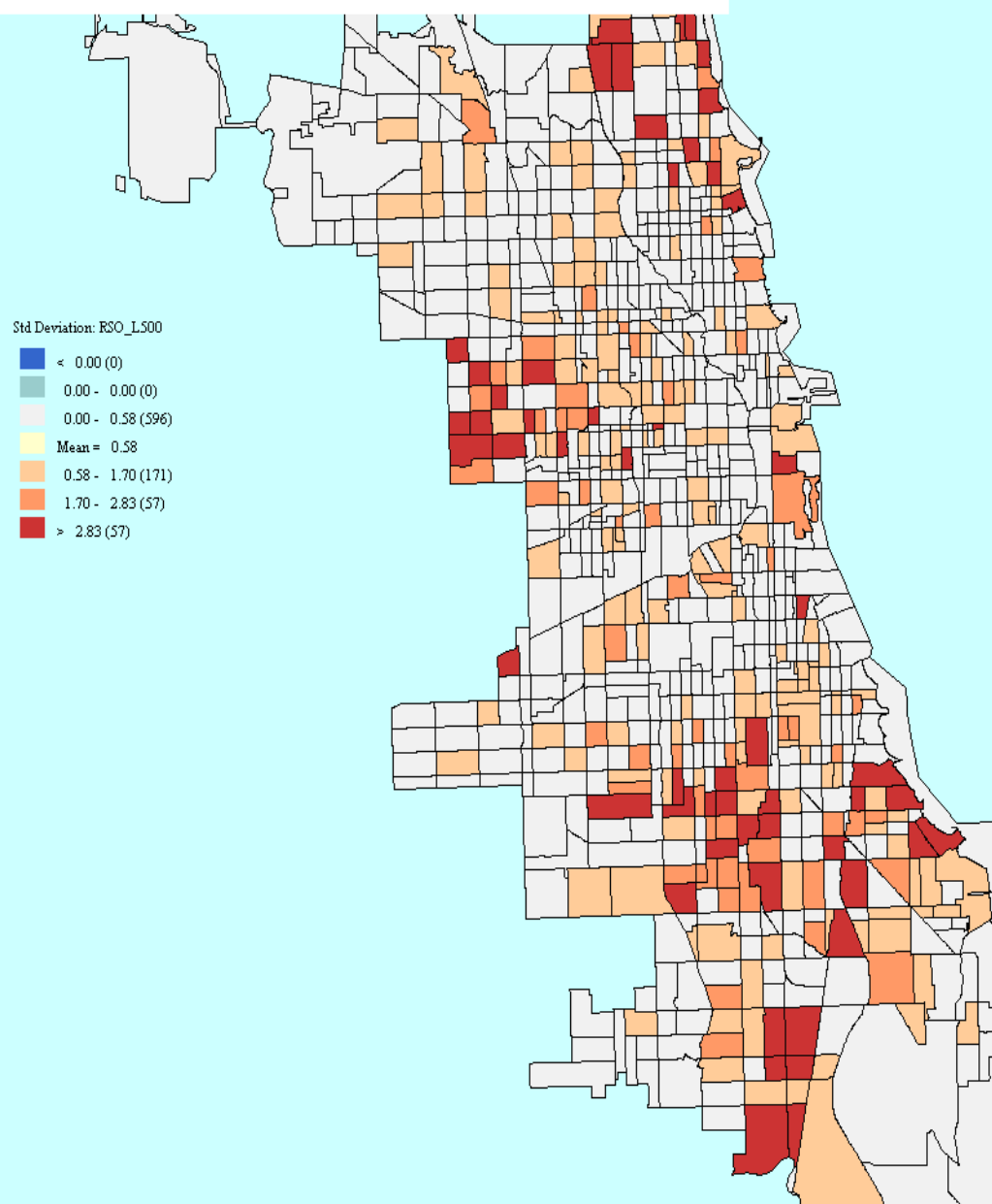
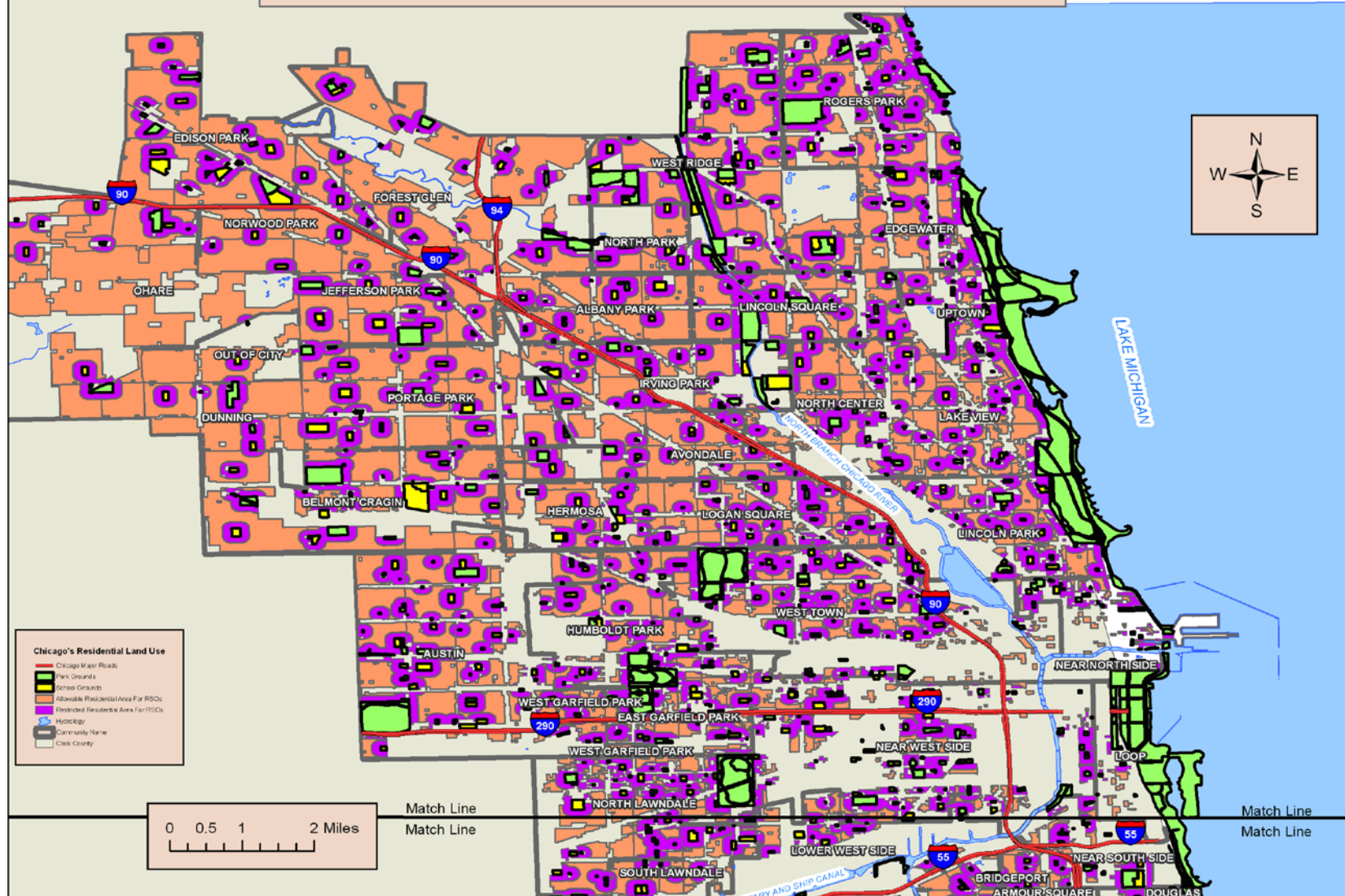




Figure 6a: North Chicago's Residential Land Use





short-term economic goals (Anderson, 1990, 1991) due to the absence of role models and stabilizing institutions (Kain 1968; Crane, 1991). High poverty neighborhoods suffer from lack of private capital investment (Goetz, 2003), low proximity to employment opportunities and job prospects (Schill, 1991) especially among the young (Ellen & Turner, 1997).

An inspection of the residential land area available for RSOs to live is restricted and the analysis reveals the presence of RSO clusters in the disorganized neighborhoods of the livable area for RSOs. These areas are characterized by low income, coupled with higher percent of poverty and unemployment. Table 1 provides the demographic and economic characteristics of the top 10 census tracts where 20 or more RSOs cluster. Table 2 provides similar data for the top 11 census tracts where five or more RSOs reside within the 500 ft radius from school properties and /or parks. Total residential area in acres along restricted areas and livable areas are also shown in Tables 1 and 2.

All but 1 of the 10 census tracts in Table 1 have a median income below the Chicago median household income level of \$38,625 and in all but 2 of the 10 tracts the percent poverty is higher than the 19.6% for Chicago on the whole. East Garfield Park has the most (37) RSOs in one census tract. Per the 2000 Census, the median annual income of this community was \$ 20,833 with 39.04% of households in poverty, 28.22% unemployment, predominantly African American population (97.14%), with a livable area of 18.24 acres in a total residential area of 37 acres.

A closer look at Table 2 indicates the Austin neighborhood (census tract # 252200) has the most (12) RSOs residing within 500 foot radius of school properties and/or parks. According to the 2000 Census, the median annual income of this area is \$30,462 with 27.12% of households living in poverty, 18.13% of the residents being unemployed, and the neighborhood has a predominantly (97.52%) African-American population with 47.7% of the area outside the restricted zone.

Hotspot analysis of the RSO residential locations in this study reveals clustering of RSOs in neighborhoods displaying characteristics of social disorganization. Causal analysis of the RSO count per 100,000 population as dependent variable with socio –demographic factors of total population, housing patterns, median income, percent poverty, and unemployment reveals the influence of social disorganization on the locations of RSO residence. Prior to the causal analysis, multicollinearity among the predictor variables was tested. Using Cohen's (1988) guidelines for interpreting the correlation coefficient<sup>9</sup>, we found large correlations among Housing Occupied and Total Population (.888); Housing Occupied and Housing Vacant (.548); Total population and Civilian Unemployed (.675); Housing Occupied and Civilian Unemployed (.512); Housing Vacant and Civilian Unemployed (.526); Median Household Income and

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<sup>4</sup>Moran's I statistics indicates spatial autocorrelation and clustering. Spatial autocorrelation is the similarity between two observations of a measured variable based upon their spatial location (Griffith 1992, Legendre 1993, Lennon 2000, Fortin et al. 2002). Moran's I is a conventional measure of auto correlation, of the residuals, values ranging from -1 to 1 depending on the degree and direction of autocorrelation. (+1 indicates strong positive spatial autocorrelation, 0 indicates random spatial ordering and -1 indicates strong negative spatial autocorrelation). The interpretation of Moran's I is similar to the nonspatial correlation coefficient (Bataineh et al 2006).



**TABLE 1: DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF THE TOP 10 CENSUS TRACTS WHERE 20 OR MORE RSO CLUSTER**

Community	Tract	RSO Count	Median Income	Percent Poverty	Percent Unemployment	Percent White	Percent AA	Percent Others	Residential Area in Acres	Livable area in Acres	Restricted area in acres	Percent Livable area
East Garfield Park	271200	37	20833	39.04	28.22	2.09	97.14	0	37.02	18.78	18.24	50.72
Hyde Park	491300	33	19226	35.37	32.18	1.15	97.82	.42	135.90	112.29	23.61	82.63
Roseland	400300	31	32398	23.17	15.73	.76	98.28	.39	44.09	27.56	16.53	62.51
South Shore	431300	31	20167	43.37	22.26	.72	97.52	.88	165.92	117.20	48.72	70.64
West Pullman	530500	29	46145	18.66	13.05	.74	97.94	.57	692.67	526.73	165.94	76.04
Greater Grand Crossing	440100	26	25705	24.41	17.99	.48	98.24	.36	152.02	113.04	38.98	74.36
Fuller Park	680200	25	23629	36.52	19.41	.96	98.03	.44	174.25	109.54	64.71	62.87
Austin	252200	24	30462	27.12	18.13	1.57	97.52	.31	168.98	80.60	88.38	47.70
Greater Grand Crossing	490900	22	32260	15.46	10.34	.23	98.51	.33	362.47	247.97	114.50	68.41
South Shore	460300	20	30187	27.36	22.62	10.31	74.49	12.53	237.34	201.97	35.36	85.10

**TABLE 2: DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF THE TOP 12 CENSUS TRACTS WHERE FIVE OR MORE RSOS RESIDE WITHIN THE 500 FT RADIUS FROM SCHOOL PROPERTY OR PARKS**

Community	Tract	RSO Count	Median Income	Percent Poverty	Percent Unemployment	Percent White	Percent AA	Percent Others	Residential Area in Acres	Livable area in Acres	Restricted area in acres	Percent Livable area
Austin	252200	12	30462	27.1	18.13	1.57	97.52	0.91	169	81	88	47.70
Near West Side	281400	8	7067	63.9	41.73	5.61	92.09	2.30	11	6	5	51.21
Austin	252100	7	28465	30.9	15.77	0.34	98.70	0.96	180	94	86	52.11
Roseland	491300	6	32398	23.2	15.73	0.76	98.28	0.96	136	112	24	82.63
Chatham	491000	6	30706	28.5	23.70	0.65	98.62	0.73	273	159	114	58.20
Austin	251900	6	22841	37.8	24.04	0.97	97.95	1.08	121	61	60	50.77
Woodlawn	430100	6	30101	21.7	11.63	0.98	97.32	1.69	140	48	92	34.71
Near West Side	271900	6	24286	45.5	41.06	9.79	86.90	3.31	15	1	14	5.82
Uptown	032100	5	32035	20.2	5.66	63.43	19.61	16.96	74	28	46	37.94
Edgewater	030700	5	32136	22.0	10.16	57.13	22.96	19.91	75	28	47	37.58
Englewood	690300	5	21034	29.4	21.64	0.25	98.66	1.09	58	24	34	41.23

Percent Poverty (-.665); additionally, a medium correlation among Housing Vacant and Total Population (.479), is seen. Due to the multicollinearity problem, spatial regression analyses were conducted against each of the predictor variables separately. Because of the possible spatial autocorrelation of residuals and spatial dependency, we performed the diagnostics for spatial dependence using GEODA. The results of the three regression analyses (OLS, Spatial lag and spatial error) are presented in table 3a and 3b.

The R<sup>2</sup> in spatial regression is a pseudo R<sup>2</sup> and is not comparable with measures in OLS regression (Zhou and Wang, 2008, Anselin, 2005). The proper measure of fit are the log-likelihood, AIC and SC for a spatial regression model (Anselin 2005). Akaike Information Criterion (AIC) is a more suitable performance measure for spatially correlated data and the model with the lowest AIC value is the best (Zhou and Wang, 2008). Based on the AIC comparison indicated in Table 3a, along with the significant diagnostics for spatial dependence, the spatial regression model was chosen to OLS. Zhou and Wang (2008) indicate that the spatial error and lag models have a similar performance. We employed both spatial lag and spatial error models, but reported spatial error model in Table 3b.

The spatial error model of  $y = X\beta + \varepsilon$  where  $\varepsilon = \lambda W\varepsilon + u$ , where  $y$  is a vector of observations on the dependent variable,  $W$  is the spatial weights matrix,  $X$  is a matrix of observations on the explanatory variables,  $\varepsilon$  is a vector of spatially auto-correlated error terms,  $u$  a vector of errors, and  $\lambda$ ,  $\beta$  are parameters; is used in this analysis (Anselin, 2005). For the ML estimation of the spatial error model, weights based on Queen Contiguity were chosen. Table 3a presents diagnostics for the spatial error model with significant Moran's I statistics, Lagrange Multiplier lag and Error. AIC for all three models were also reported and the spatial error model has the lowest AIC. For the RSO count per 100,000 population, it is clear that a spatial error model is a best fit. For the RSO within 500 ft radius of schools or parks per 100,000 population, the spatial dependency diagnostics are not significant suggesting OLS may be a better option. The heteroskedasticity test indicates violation of normality criteria. The mean of RSOs within a 500ft radius of schools and parks per 100,000 population was 22 with a standard deviation of 86. Total population, housing occupied, median household income and percent poverty emerged to be significant predictors for the model with dependent variable as RSO within 500 ft radius per 100,000 population. The r square for all these models ranged from .01 to .04 explaining 1 to 4 percent variation in the dependent variable due to variations in significant predictors. The calculated Moran's I for RSOs residing within a 500 ft radius of schools and parks per 100,000 population is .22 indicating the spatial autocorrelation of the residuals.

The calculated Moran's I for the RSO count per 100,000 population is .26. The mean

<sup>5</sup>spatial regression models: Because of spatial dependency and violation of normality conditions, this study used spatial error regression model (Anselin et al., 2006).

<sup>6</sup>To calculate Mora's I spatial weights were created based on Queen Contiguity. Queen Contiguity includes all common points (boundaries and Vertices in the definition. Spatial weights based on Queen Contiguity have a denser connectedness structure (more neighbors) Anselin (2003).

**TABLE 3A: OLS REGRESSION MODEL WITH RSO PER 100,000 POPULATION AS DV**

Variables	OLS Results				Akaike Info Criterion (AIC)		
		Diagnostics for Spatial Dependence					
	R <sup>2</sup>	Morans I	LM Lag	LM Error	OLS	Spatial Lag	Spatial Error
<b>DV: RSO per 100,000 population - Mean = 106; Standard Deviation = 288</b>							
Total Population	.01***	.06***	12.78***	11.22***	12470.6	12461.6	12460.6
Housing Occupied	.02***	.06***	11.71***	9.77***	12467.7	12459.5	12458.7
Housing Vacant	NS	.08***	16.5***	16.8***	12479.7	12468.2	12465.8
Median Household Income	.02***	.06***	10.9***	9.6***	12466.6	12459.1	12458.3
Percent Poverty	.01**	.06***	11.7***	9.6***	12474.3	12466.1	12465.6
Civilian Unemployment	NS	.08***	16.2***	16.2***	12480.7	12469.4	12467.4
<b>DV: RSO( within 500 ft radius of school and parks) per 100,000 population - Mean = 22; Standard Deviation = 86</b>							
Total Population	.01*	.02*	4.4*	4.1*	10347.2	10346.9	10345.3
Housing Occupied	.01*	.02	3.98*	3.62	10347.2	10346.9	10345.2
Housing Vacant	NS	.02	2.31	2.32	10352	10351.1	10349.1
Median Household Income	.02***	.01	2.95	2.64	10335.8	10336.6	10335.1
Percent Poverty	.05	.01	0.13	0.16	10311.4	10312.9	10310.9
Civilian Unemployment	NS	.03	2.3	2.3	10352	10351.1	10349.1

**TABLE 3B: SPATIAL ERROR REGRESSION MODEL WITH RSO PER 100,000 POPULATION AS DV**

Variable	Heteroskedasticity Breusch-Pagan test	Lambda	Morans I Z of $\lambda$	Coefficient	Morans I Z value	LR
<b>DV: RSO per 100,000 population (Moran's I = .2584)</b>						
Total Population	151.4***	.15	3.24***	-.01	-2.69***	10.01***
Housing Occupied	95.0***	.15	3.08***	-.03	-3.04***	8.94***
Housing Vacant	40.05***	.18	3.8***	.13	1.34	13.87***
Median Household Income	24.9***	.14	2.96***	-.002	-3.14***	8.32**
Percent Poverty	.43	.15	3.14***	.97	1.52	8.73**
Civilian Unemployment	35.2***	.18	3.68***	-.03	-.45	13.25***
<b>DV: RSO( within 500 ft radius of school and parks) per 100,000 population (Moran's I = .2201)</b>						
Total Population	154.8***	.07	1.47	-.001	-1.99*	1.93
Housing Occupied	95.1***	.07	1.48	-.01	-2.01*	1.97
Housing Vacant	45.9***	.08	1.78	.01	.02	2.88
Median Household Income	183.8***	.05	.91	-.001	-3.86**	.73
Percent Poverty	2760.5***	.04	.76	1.11	6.33***	.52
Civilian Unemployment	34***	.09	1.77	.002	.13	2.83

RSOs per 100,000 population was 106 with a standard deviation of 288. The calculated Moran statistic is highly significant suggesting a problem of spatial autocorrelation of the residuals. The spatial autoregressive coefficient lambda for all six models ranges from 15 to 18 (Table 3b) and are highly significant at  $p < .05$ . The significance of spatial autoregressive coefficient confirms that the spatial error model is more appropriate. The Breusch Pagan Heteroskedasticity test was significant for five out of six models, indicating the presence of heteroskedasticity among random coefficients. The assumption of normality is rejected, and there is presence of spatial autocorrelation justifying the appropriateness of ML error estimation. Significant Moran's I - Z value for three models indicates that the null hypothesis of zero autocorrelation is rejected. The regression diagnostics reveal considerable non-normality and heteroskedasticity and spatial autocorrelation. The Likelihood Ratio test (LR) confirms the strong significance of the spatial autoregressive coefficient. The R<sup>2</sup> values ranges from .01 to .03 explaining one to three percent variations in the dependent variable due to variations in independent variables. Significant likelihood ratio (LR) also suggests significant spatial autocorrelation of errors. Overall, the ML spatial error indicates the presence of significant spatial dependency of the variables which violates the normality criteria in the models. We found that the total population, housing occupied, median household income and percent poverty explains variations in the RSO residential locations, although there are also other factors impacting location. RSOs' residential choices are negatively influenced by population, housing occupation and median income, but positively influenced by percent poverty.

At its core, community disorganization as measured by poverty, vacant housing, unemployment, and residential mobility which here are strong predictors of the number of RSOs residing within census tracts. There is a strong spatial dependency factor present concerning RSOs residential location. Community level social and economic attributes play a significant role in RSOs selection of residential place. The spatial dependency of RSOs indicates that the disorganization of the neighborhood predicts RSO clustering. Failure to improve social controls in disorganized neighborhood may not provide spatial 'social justice'. Instead of promoting the concentration of RSOs by restricting the areas for them to live, efforts to revitalize and preserve a sense of community would help in the long-run towards solving RSO clusters.

## DISCUSSION

As suggested by previous literature (Hughes and Burchfield, 2008; Hughes and Kadleck, 2008) the present study supports the argument that the residential locations of registered sex

<sup>7</sup>Kernel Density Estimate (KDE): KDE estimation output and density maps indicate concentration of crime accurately in a geographic area. This method has the advantage of deriving crime density estimates (Levine 2004)

<sup>8</sup>Restricted area: Addresses of day care centers were not available which is one of the limitation towards finding the exact restricted area



offenders are clustered in small geographic areas and RSOs are likely to be relegated to socially disorganized neighborhoods. As the results of the present study show, there are clear clusters of RSO residences both in general and with 500 ft radius of schools and parks. In regards to the clustering of RSOs, we see that not only are there neighborhoods with heavy concentrations of RSOs in residence, but so too are there neighborhoods with few if any RSOs in residence. Clearly there are social forces at work driving the residency locations of sex offenders across the community. Some of the clusters of RSOs are the locations where RSO ‘non-compliers’ cluster, but others are not home to significant numbers of ‘non-compliers’. The suggestion here is that while there are factors that drive the clustering of RSOs in general there may also be factors that differentially effect the clustering of the non-compliers. As our results show, the concentration of households living below the poverty line is a significant predictor of where RSOs generally live, but it is not a predictor of the concentration of the non-compliers. This suggests that poverty is less of an influence on residential locations of RSOs who live within the 500 ft radius of schools or parks, thereby suggesting that other issues, especially housing availability, may be more important. This idea builds on previous research (Hughes and Burchfield, 2008) that shows that housing units are more density situated and a greater proportion of housing units are likely to be in close proximity to schools (and other restricted locations) in less affluent, more socially disorganized communities. In more residentially dense communities there may be fewer housing units that would allow an RSO to live legally; therefore, it may be a necessity for an offender to live in violation of residential restrictions if they are to avoid homelessness.

Overall, the results of the present study show that important factors driving the locations and clustering RSOs’ residences in Chicago are available housing, and the economic factors of income, poverty concentration and unemployment. As economic variables are worse in a census tract (lower housing incomes, higher concentration of poverty and more unemployment) the number and concentration of RSOs in residence increases. Additionally, we see that as rates of vacant housing increases so too does the concentration of RSOs. This factor suggests that when in search of a place to live RSOs go to where there is the most housing availability, meaning where it is likely to be most economically affordable even if those places are in undesirable neighborhoods. The affordability factor is a consequence of a greater proportion of housing stock being for sale or rent, and thereby holding prices down. In economic terms, RSOs are relegated to find housing where they can, and perhaps not in consideration of legal restrictions.

As socially disorganized neighborhoods (those with high poverty, low income, high unemployment, and more vacant housing) receive increasing numbers of RSOs it is likely that the social capital and overall desirability of such neighborhoods will only continue to deteriorate. This suggests that when RSOs are relegated in high concentrations in socially disorganized neighborhoods these neighborhoods are likely to remain or become yet more

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<sup>9</sup>Guidelines for Correlation Coefficient: Cohen (1988) has suggested the following interpretations for correlations in psychological research, - Correlation Negative or Positive Small 0.1 to 0.3 0.1; Medium 0.3 to 0.5 and Large 0.5 to 1.0

socially undesirable to residents, and increasingly house only those who are there not by choice but only by forced circumstance. Such communities can be expected to continue to physically deteriorate, and subsequently attract or tolerate increasing crime rates and social pariahs (Gault and Silver, 2008; O'Shea, 2006; Sampson and Radenbush, 1999; Wilson and Kelling, 1982). This suggests that social processes which have the effect of relegating RSOs to disadvantaged and undesirable communities will only serve to drive those neighborhoods deeper into social problems.

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## UNDERSTANDING POLICE USE OF FORCE: A REVIEW OF THE EVIDENCE

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### *Abstract*

*The current study provides a thorough content analysis of use of force studies published in peer-reviewed journals between 1995 and 2008. The most commonly used explanatory factors are discussed in terms of their influence on police officers' decisions to use force during encounters with suspects. Based on the empirical evidence summarized, it appears that few suspect and encounter characteristics are highly influential in determining use of force by police. Moreover, most of the variables used throughout the literature seem to have a mixed relationship with or appear to be poor predictors of use of force by police. We offer possible explanations for the inconsistent findings and suggestions for future research in this area.*

**Key Words:** Police, Force, Violence, Discretion

### INTRODUCTION

The police are tasked with making a variety of decisions and the duty to address “something-that-ought-not-to-be-happening-and-about-which-someone-had-better-do-something-now” (Bittner, 1974: 30). This broad mandate involves many different functions, including crime fighter (Manning, 1978, 1992), order maintenance or peacekeeper (Greene, 2000; Kelling & Moore, 1988; Wilson, 1968; Wilson & Kelling, 1982), service delivery (Eck & Rosenbaum, 1994), problem solver (Eck & Spelman, 1987; Goldstein, 1979, 1990; Kelling & Moore, 1988), and dispenser of force (Bittner, 1970,1974; Muir, 1977). This potpourri of roles produces definitions of police work that are not consistent and present a significant challenge to understanding police work from a scientific perspective.

Arguably the most defining characteristic of police work is their ability to use force to enforce the law (Bittner, 1970); they are uniquely situated and authorized to employ various levels of force to compel specific responses from citizens. These actions have been studied since the “discovery” of discretion in the middle of the 20th Century. Initially, police use of “normal” and non-lethal force only received scant attention, and it was not until the mid 1980’s that non-lethal force became a popular topic for academics. Since then, more research attention has been focused on examining the extent, nature, and correlates of non-lethal police force. Unfortunately, due to its rare occurrence (NIJ, 1999), use of force is not well understood despite the fact that scholars have been researching it for nearly sixty years.

Sherman (1980) and Riksheim and Chermak (1993) initially reported on the state of knowledge regarding police behavior broadly, and use of force specifically, by summarizing existing studies of police behavior. Since these pioneering pieces, the use of force literature has experienced significant growth over the last twenty years. Thus, a comprehensive update on the correlates of use of force by police is necessary. We aim to accomplish this goal by summarizing and grouping the primary correlates of use of force by borrowing from the template employed by Riksheim and Chermak (1993) and focusing on research within the past twenty years. This comprehensive review will assist in forming the foundation for a new wave of research questions and generate a research agenda that studies arguably the most defining aspect of police work.

## **METHODOLOGY**

To effectively catalog and understand the correlates of force, we borrow from the pioneering and widely cited work of Sherman (1980) and Riksheim and Chermak (1993) and examine various studies of use of force by police published between 1995 and 2008. This study period was selected for several reasons. First, in 1995, a comprehensive definition for use of force within the academic community was presented (Garner, Schade, Hepburn, & Buchanan, 1995); thus, it was expected that most, if not all, studies after 1995 would use that definition of force in their assessment of this phenomenon. Second, in the mid-1990s, the use of force continuum became a prominent measure of force among scholars studying police use of force. As a result, scholars began to include nonviolent police behaviors in their measures of force that were not included in earlier studies. Last, Riksheim and Chermak’s (1993) replication of Sherman’s (1980) literature review reported on studies conducted between 1980 and 1993. Therefore, their review provided a detailed synopsis of the field’s knowledge regarding police use of force up to the mid-1990’s, but no recent comprehensive review has been undertaken.

A comprehensive and scientific methodology was instituted to identify all relevant studies. Initially, multiple Boolean search terms were created from a combination of words/phrases, such as “police”, “use of force”, “use of violence”, and “forceful encounters”. These search terms were then used to gather literature consolidated in the Criminal Justice Periodicals Index, which searches peer-reviewed journals publishing studies on criminal justice, broadly, and policing, specifically. Forty-one studies were originally identified, each directly



addressing a dimension of use of force by police. Of these, twenty-eight used multivariate techniques: twenty-four<sup>1</sup> analyzed incidents where police resorted to force during an encounter with a suspect; two studies examined officer attitudes or perceptions regarding the use of force<sup>2</sup>; one focused on internal affairs investigations for use of force<sup>3</sup>; and one evaluated agency level rates of reported use of force incidents<sup>4</sup>. The remaining thirteen studies did not conduct multivariate analyses and only provided a general overview of use of force in terms of univariate descriptive statistics or bivariate relationships. These studies were removed from further consideration, as the state of research has changed recently to require more rigor in analysis with multivariate analysis now considered the minimum threshold for scientific study. Two additional studies were removed from consideration because the samples focused on deported illegal immigrants, which are very different from the suspects described in traditional policing studies. Finally, three studies that relied on vignette analysis were removed due to limitations associated with those data. The remaining twenty-three studies using multivariate analyses were analyzed and summarized in Table 1.

Across the twenty-three studies a total of 212 different independent variables were employed to explain various dimensions of police use of force. Due to space limitations, all 212 are not discussed, rather the discourse here is limited to the most commonly used variables throughout the literature. Similar to Riksheim and Chermak (1993), these factors are grouped by suspect, encounter, and officer characteristics. The constellation of factors used to predict police force are discussed in this order to reflect the nested structure of police-citizen encounter data. That is, data relating to police-citizen encounters correspond to a natural, hierarchical structure in which suspect and encounter characteristics are nested within officers, which in turn are nested within agencies and communities.

## SUSPECT CHARACTERISTICS

Suspect characteristics are frequently examined by studies exploring use of force by police. Suspect demographics (i.e., race/ethnicity, gender, and age) are common foci, but demeanor, social class, and the use of drugs/alcohol are also variables of interest in more contemporary inquiries. Each of these factors is reviewed in detail below.

### Race/Ethnicity

Similar to studies examining other criminal justice decision points, the race/ethnicity of

<sup>1</sup> Alpert, Dunham, & MacDonald (2004); Burke & Mikkelsen (2004); Crawford & Burns (1998); Engel, Sobol, & Worden (2000); Garner, Maxwell, & Heraux (2002); Kaminski, Digiovanni, & Downs (2004); Kop & Euwema (2001); Lawton (2007); McCluskey & Terrill (2005); McCluskey, Terrill, & Paoline (2005); Morabito & Doerner (1997); Norris, Birkbeck, & Gabaldon (2006); Paoline & Terrill (2004); Paoline & Terrill (2007); Phillips & Smith (2000); Phillips, Rodriguez, & Hagan (2002); Phillips, Hagan, & Rodriguez (2006); Schuck (2004); Sun & Payne (2004); Terrill & Mastrofski (2002); Terrill & Reisig (2003); Terrill, Paoline, & Manning (2003); Terrill (2005); Terrill, Leinfelt, & Kwak (2008)

<sup>2</sup> Holmes, Reynolds, Holmes, & Faulkner (1998); Son, Davis, & Rome (1998)

<sup>3</sup> McElvain & Kposowa (2004)

<sup>4</sup> Alpert & MacDonald (2001)

**TABLE 1. SUMMARY OF RESEARCH FINDINGS ASSOCIATED WITH USE OF FORCE BY VARIABLE**

Variables	Positive relationship	Negative relationship	Mixed findings	No relationship	# of studies
<b>Suspect characteristics</b>					
Race/Ethnicity (minority)	2	--	7	8	17
Gender (male)	8	--	6	3	17
Age (older)	--	7	3	5	15
Demeanor	4	--	2	7	13
Social class (lower)	5	--	2	2	9
Intoxication	7	--	5	3	15
<b>Encounter characteristics</b>					
Weapon	4	--	5	1	10
Proactive contact	4	--	5	1	10
Resistance	8	--	1	1	10
Arrest	5	--	1	--	6
Other officers	3	1	4	2	10
Other citizens	1	--	3	8	12
Conflict	4	--	2	1	7
<b>Officer characteristics</b>					
Race (non-white)	--	--	2	9	11
Gender (Male)	2	--	3	10	15
Age	--	2	--	1	3
Experience	--	4	4	5	13
Education	--	2	2	1	5

the suspect occupies a considerable amount of research attention. This is particularly salient in the context of force due to the historically contentious relationship between minority communities and the police. The empirical evidence is mixed on this issue, but several studies documented that a suspect's race/ethnicity did not influence whether an officer used force during an encounter (Engel et al., 2000; Lawton, 2007; McCluskey et al., 2005; McCluskey & Terrill, 2005; Morabito & Doerner, 1997; Phillips & Smith, 2000; Sun & Payne, 2004). Importantly, some of these findings were consistent across multiple models; for example, Engel et al. (2000) estimated nine models and race/ethnicity was not statistically significant in any of the analyses. Similarly, Phillips and Smith's (2000) findings of no race/ethnicity effect were consistent across two models, and Sun and Payne (2004) derived the same finding across three models. Moreover, Terrill (2005) examined behavioral sequences between the suspects and officers in his sample and reported that suspect race/ethnicity did not affect whether an officer skipped levels on the force continuum or increased or decreased the amount of force they used during an encounter.

In spite of the strong evidence suggesting that a suspect's race/ethnicity does not influence police use of force, some studies have reported contradictory findings. For example, Terrill and Mastrofski (2002) found that non-white citizens were more likely to be subjected to some form of force than their white counterparts (see also Terrill et al., 2003). Moreover, several other studies have found that suspect race/ethnicity produced mixed results, depending on the model that was estimated. Garner et al. (2002) discovered that Black suspects were more likely to have force used against them in situations of compliance, but race/ethnicity was not a factor in encounters involving resistance. Several other studies have also produced mixed results (Kaminski et al., 2004; Paoline & Terrill, 2004, 2007; Schuck, 2004; Terrill et al., 2008). For instance, Terrill and Reisig (2003) initially reported that minority suspects were more likely to have force used against them than white suspects; however, when neighborhood contextual factors were introduced into the model, suspect race/ethnicity no longer retained significance.

## Gender

The gender of the suspect has also received considerable attention in studies of force and consistently demonstrates that male suspects are more likely to have forced used against them during police-citizen encounters (Garner et al., 2002; McCluskey et al., 2005; McCluskey & Terrill, 2005; Phillips & Smith, 2000; Sun & Payne, 2004; Terrill & Mastrofski, 2002; Terrill & Reisig, 2003; Terrill et al., 2003). Some studies indicated mixed results for gender (Crawford & Burns, 1998; Paoline & Terrill, 2004, 2007; Schuck, 2004; Terrill, 2005). For example, Kaminski et al. (2004) discovered that officers were no more or less likely to use a firm grip on male suspects compared to females; however, officers were more likely to use a higher level of force on male suspects compared to their female counterparts. Finally, a few select studies

reported that suspect gender was not related to use of force (Engel et al., 2000; Lawton, 2000; Morabito & Doerner, 1997).

## **Age**

The third suspect demographic, age, has been inconsistently linked to the use of force. Of those studies that reported a relationship between age and use of force, the majority of empirical evidence suggested that law enforcement officers were less likely to use force on older suspects (McCluskey & Terrill, 2005; McCluskey et al., 2005; Paoline & Terrill, 2007; Phillips & Smith, 2000; Terrill & Mastrofski, 2002; Terrill & Reisig, 2003; Terrill et al., 2003). The evidence is not completely consistent, however, as Paoline and Terrill (2004) reported that male officers were less likely to use verbal and physical force against older citizens, whereas being older only reduced the likelihood of physical force when the encounter involved a female officer. Similarly, Crawford and Burns (1998) found that officers were less likely to use a physical restraint against younger citizens, but were more likely to use some form of nonlethal force (see also Terrill, 2005). They also reported that citizen age did not influence whether an officer issued a verbal command, used chemical spray or a firearm. Similar non-significant findings were presented in other studies (Engel et al., 2000; Garner et al., 2002; Kaminski et al., 2004; Terrill et al., 2008). For example, Sun and Payne (2004) discovered that police in their sample were no more or less likely to respond coercively to older citizens when resolving domestic disputes.

## **Demeanor**

Apart from suspect demographics, suspect demeanor within the context of the police-citizen encounter has also received a considerable amount of research attention. Collectively, the evidence is mixed with some studies reporting disrespectful suspects were more likely to have force used against them, others citing no demeanor effect, and still others reporting inconsistent results within the same study. For example, Engel et al. (2000) reported that disrespectful citizens were more likely to be subjected to force than their respectful counterparts across nine different models. They also examined how demeanor interacted with other factors, but these terms did not achieve statistical significance. Sun and Payne (2004) also reported that officers were more likely to resolve a dispute by responding coercively when the citizen involved was disrespectful (see also Garner et al., 2002 and Kaminski et al., 2004).

Contrary to these findings, other studies have suggested inconsistent results. For example, in one study, poor suspect demeanor did not influence the use of a verbal command or firearm, but angry or aggressive suspects were more likely to have a chemical spray or nonlethal weapon used against them (Crawford & Burns, 1998). Similarly, Terrill (2005) reported a null effect for demeanor in three of the four models he estimated but he found that officers were less likely to jump levels of force (both up and down the continuum) when confronted with a disrespectful suspect (see explanation on p. 132). Finally, a group of studies

reported that suspect demeanor was not related to use of force (McCluskey et al., 2005; McCluskey & Terrill, 2005; Paoline & Terrill, 2004, 2007; Phillips & Smith, 2000; Terrill et al., 2003). For example, Terrill and Mastrofski (2002) reported that suspects who were disrespectful toward the police in language or gesture were no more or less likely to have force used against them than their more polite counterparts.

Studying suspect demeanor has also been criticized due to its operationalization and measurement (Engel, Klahm, & Tillyer, 2010). The most pervasive problem throughout the literature is that demeanor is measured as a number of different behaviors, all of which may not be equivalent but are nonetheless treated as reflecting the same conceptual idea. This might account for the divergent results reported across studies. Aside from this issue, in most instances, suspect demeanor is measured according to a third party assessment (observers) and thus might not truly reflect how the officer involved in the encounter perceived his or her behavior.

## **Social Class**

Social class is a classic consideration for assessments of equal treatment by the police for all citizens. The majority of research examining suspect social class and use of force was inconclusive with some research suggesting that there was no relationship between social class and use of force (McCluskey et al., 2005; Sun & Payne, 2004), and other studies suggesting that an officer's propensity to use force was influenced by the social class of the citizen involved in the encounter (McCluskey & Terrill, 2005; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002; Terrill et al., 2003; Terrill & Reisig, 2003). Finally, others have reported inconsistent effects for this factor in the same study (see Paoline & Terrill, 2004 and Terrill, 2005). It is important to heed Friedrich's (1980) caution that it is difficult to disentangle the effects of race/ethnicity and social class. Thus, any findings regarding social class should be considered tenuous at best. Moreover, similar to the issue concerning demeanor, most of these studies used measures of social class that were based on an observer's perception of the suspect, which may have been influenced by the neighborhood context and incongruent with the officer's assessment.

## **Intoxication**

Suspect's use of alcohol and/or drugs (i.e., intoxication) and its relationship with police behavior has a long history of research (Reiss, 1971; Friedrich, 1980). The body of contemporary research offers a somewhat mixed picture of a relationship between intoxication and use of force. Several studies have reported that suspects who were under the influence of drugs or alcohol at the time of their encounter with police were more likely to have force used against them than their sober counterparts (Engel et al., 2000; McCluskey & Terrill, 2005; McCluskey et al., 2005; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002; Terrill et al., 2003; Terrill et al., 2008). Conversely, other studies have suggested a less direct relationship. For



example, Crawford and Burns (1998) reported that suspects under the influence of alcohol were more likely to have a verbal command levied at them, whereas drug intoxication had no effect on this outcome. Similarly, they reported that suspects under the influence of drugs were more likely to experience a nonlethal weapon attack but that police were no more or less likely to use this type of force on suspects under the influence of alcohol (see also Garner et al., 2002; Lawton, 2007; Paoline & Terrill, 2004; and Terrill, 2005). Other studies have reported null findings including Morabito and Doerner (1997) who reported that officers were no more or less likely to use OC spray against intoxicated suspects prior to or after policy changes regarding the deployment of OC spray (see also Phillips & Smith, 2000 and Schuck, 2004).

### **ENCOUNTER CHARACTERISTICS**

Research has also explored the influence of encounter characteristics on the use of force by police. Encounters characteristics reflect factors, not directly linked to the suspect, that vary across police-citizen situations. These factors include the presence of a weapon during the encounter, if the officer proactively initiated the contact, the suspect resisted, if an arrest occurred, the presence of other officers or other citizens, and if there was conflict between the officer and citizen within the encounter. The evidence regarding each of these elements is summarized below.

#### **Weapon**

It seems intuitive that suspects possessing a weapon would be more likely to have force used against them due to the inherent danger they might pose to the officer and/or public. Few studies, however, actually assess the impact of this characteristic and the empirical evidence regarding its effect is mixed. A handful of studies have, indeed, found that suspects brandishing a weapon were more likely to have force used against them (McCluskey et al., 2005; Paoline & Terrill, 2007; Sun & Payne, 2004; Terrill & Mastrofski, 2002). Other studies, however, have reported mixed results (e.g., Crawford & Burns, 1998; Kaminski et al., 2004; Morabito & Doerner, 1997; and Terrill et al., 2003). For example, Paoline and Terrill (2004) discovered that female officers were no more or less likely to resort to verbal or physical force when the suspect involved in the encounter was carrying a weapon; however, their male counterparts were more likely to use physical force when a suspect was wielding a weapon, but no more or less likely to use verbal force. Lastly, contrary to expectation, a single study found that possessing a weapon did not influence an officer's likelihood of using force (McCluskey & Terrill, 2005).

## **Proactive Contact**

Very few studies prior to the mid-1990s examined the effect that an officer initiating contact had on the likelihood of using force (Riksheim & Chermak, 1993; Sherman, 1980). Since then, several studies have included such a measure and the empirical evidence is mixed. Several studies found that when police proactively initiate an encounter they were more likely to apply force (McCluskey & Terrill, 2005; McCluskey et al., 2005; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002), whereas others reported inconsistent effects across models. For example, Garner et al. (2002) discovered that proactively entering an encounter was not related to force when the suspect was compliant, but was predictive of force when the citizen resisted (see also, Paoline & Terrill, 2004; Terrill, 2005; and Terrill et al., 2003). Most recently, Terrill et al. (2008) reported that their findings were dependent upon the analytical technique they used. The results of an ordinal regression model indicated that officers were less likely to use force during a proactive encounter; however, a logistic regression model produced no statistically significant effects. Finally, Engel et al. (2000) reported no relationship between proactively engaging a citizen in an encounter and use of force.

## **Resistance**

Terrill and Mastrofski (2002) and Garner et al. (2002) drew attention to the fact that police-citizen encounters are dynamic in nature. As such, they emphasized the importance of capturing suspect behaviors occurring during police encounters that might precipitate the use of force. Failure of early studies to capture the dynamic nature of these encounters constrained our understanding regarding how certain factors are related to police use of force (Terrill & Mastrofski, 2002). Prior to opining this sentiment, a single study (see Crawford & Burns, 1998; reported mixed results) reviewed here included a measure attempting to account for the dynamic nature of these events, but since then several studies have by including measures of suspect resistance. The empirical evidence suggests that resistant suspects were more likely to experience a forceful outcome compared to their compliant counterparts (McCluskey & Terrill, 2005; McCluskey et al., 2005; Paoline & Terrill, 2004, 2007; Schuck, 2004; Terrill et al., 2003; Terrill et al., 2008). For example, Terrill and Mastrofski (2002) reported suspects who demonstrated passive, verbal, defensive, or active resistance were more likely to have force used against them. The lone exception to this general finding is Lawton (2007) who reported no effect for this factor.

## **Arrest**

The arrest of a suspect was not considered in early assessments of use of force (Riksheim & Chermak, 1993; Sherman, 1980), but more contemporary studies have employed a measure

of arrest to determine if this factor influences the likelihood of an officer using force. The empirical evidence is fairly consistent, suggesting that officers were, in fact, more likely to employ force when an arrest was made (McCluskey & Terrill, 2005; McCluskey et al., 2005; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002; Terrill et al., 2003). Paoline and Terrill (2004) specified this relationship by reporting that both male and female officers were more likely to use physical force when they arrested the suspect involved in the encounter; however, male officers were less likely to employ verbal force when an arrest was initiated, whereas the likelihood of a female officer using verbal force was not influenced.

Importantly, one significant limitation of these studies is the inability to determine whether force was used before an arrest was initiated; thus, the temporal ordering component of scientific research is not achieved. Moreover, some organizational policy dictates the use of handcuffing once a suspect is arrested thus eliminating discretion and requiring officers to use that level of force (see Terrill et al., 2003 footnote on page 1022). Finally, arrest is also associated with other officer behaviors captured on the use of force continuum. For example, verbal commands and pat-downs are actions officers engage in when affecting an arrest.

### **Presence of Other Officers/Citizens**

Between 1980 and 1993, only one study examined the impact of other officers on the use of force (Riksheim & Chermak, 1993). More recently, scholars have become increasingly interested in how this factor might influence use of force situations. The empirical evidence, to date, is mixed, as some studies found that force was more likely to occur as the number of officers involved increases (Garner et al., 2002; Paoline & Terrill, 2007; and Terrill & Mastrofski, 2002), others reported that force is negatively related to the presence of officers (Lawton, 2007), and some suggested that there is no relationship (Engel et al., 2000; McCluskey, et al., 2005).

Other studies have produced mixed results for the effect of this factor. For example, Terrill et al. (2003) reported that the location of the encounter was influential, a positive relationship in one location, but a null relationship in another jurisdiction. Paoline and Terrill (2004) reported that the relationship depended on the operationalization of force as presence of officers was positively related to physical force, but not to verbal force. Finally, Phillips and Smith (2000) discovered a negative relationship only when more than three officers were present (see also Terrill, 2005).

The presence of other citizens has also only recently become a focus of research, as only two studies had considered this factor on police officer decision-making prior to 1993 (Riksheim & Chermak, 1993). The recent evidence is rather consistent suggesting that the number of bystanders has no influence on an officer's likelihood of using force (McCluskey et al., 2005; Paoline & Terrill, 2004, 2007; Schuck, 2004; Terrill, 2005; Terrill & Mastrofski, 2002; Terrill et al., 2003; Terrill et al., 2008). Engel et al. (2000), however, reported conflicting results, suggesting that the police were more likely to use force against a suspect as the number of bystanders increased. Finally, Crawford and Burns (1998) found that bystanders increased

the likelihood of using physical restraints but had no influence on the use of chemical agents, nonlethal weapons, or firearms (see also Garner et al., 2002 and Phillips & Smith, 2000).

## **Conflict**

Conflict within the encounter is also a relatively new characteristic included in assessments of force, as none of the studies reviewed by Sherman (1980) or Riksheim and Chermak (1993) considered this factor. The collective empirical evidence unsurprisingly suggests that officers were more likely to use force against a suspect if he/she was engaged in a conflict with another citizen at the time of the encounter (McCluskey & Terrill, 2005; McCluskey et al., 2005; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002). Other studies produced mixed results; for example, Terrill et al. (2003) concluded that this factor varied by jurisdiction, and Paoline and Terrill (2004) reported its effect varied by the operationalization of force (i.e., verbal vs. physical). Finally, Engel et al. (2000) reported that conflicts between citizens did not influence an officer's likelihood of using force.

## **OFFICER CHARACTERISTICS**

Officer characteristics reflect the intrinsic uniqueness of the officer involved in the encounter. Previous summaries considered race/ethnicity, gender, age, length of experience, and education of officers (Riksheim & Chermak, 1993; Sherman, 1980). Only a handful of early studies examined these factors, but by the time Riksheim and Chermak (1993) conducted their summary, over twenty independent findings were reported for officer characteristics. More recently, officer characteristics have received considerable attention in use of force research.

### **Race/Ethnicity**

Early studies reported that officer race/ethnicity was not related to the likelihood or appropriateness of police use of force in general, or the use of deadly force, specifically (Friedrich, 1980; Geller & Karales, 1981). More recently, this finding has been confirmed by a series of research studies (Lawton, 2007; McElvain & Kposowa, 2004; McCluskey et al., 2005; McCluskey & Terrill, 2005; Morabito & Doerner, 1997; Paoline & Terrill, 2004, 2007; Terrill & Mastrofski, 2002). For example, Crawford and Burns (1998) reported that officer race/ethnicity did not influence the likelihood of an officer using a verbal command, physical restraint, chemical spray, non-lethal weapon, or firearm.

While the majority of research indicates no consistent relationship between officer race/ethnicity and use of force, a few recent studies have produced divergent results suggesting Black and White officers differed in their use of force practices. For example, one of Sun and

Payne's (2004) models found that Black officers were more likely than White officers to respond coercively when asked to resolve interpersonal conflicts between citizens. Interestingly, officer race/ethnicity was no longer statistically significant once interaction terms and neighborhood level characteristics were introduced into the model. Similarly, Garner et al. (2002) reported mixed results, as they discovered that Hispanic officers were more likely than White officers to use force, while Black officers and those classified as "Other" were no more or less likely to use force compared to their White counterparts. These relationships, however, only pertained to the prevalence of force. When severity of force was their outcome measure, officer race/ethnicity was not a significant predictor. Thus, officer race/ethnicity appears to have no consistent effect on use of force by police.

## **Gender**

Similarly, most studies indicate officer gender is not related to use of force by police. Arguably the most thorough analysis of gender differences and use of force involved six different models and two different analytic techniques (Paoline & Terrill, 2004). Results indicated only one significant difference between male and female officers in their sample; male officers were more likely to use higher levels of force against male suspects whereas suspect gender was unrelated to the level of force female officers used. No other statistically significant gender differences were reported in the likelihood or type of force used despite the fact that male and female officers were influenced by other factors differentially. McCluskey and Terrill (2005) found that after controlling for the number and type of complaints filed against officers, officer gender was not related to use of force in their sample. These findings have been supported by several other studies (Crawford & Burns, 1998; Kaminski et al., 2004; Lawton, 2007; McCluskey et al., 2005; Paoline & Terrill, 2007; Phillips & Smith, 2000; Sun and Payne, 2004; Terrill & Mastrofski, 2002; Terrill et al., 2008).

Despite the fact that most studies find no significant difference in how often or the type of force employed by male and female officers, some have produced results suggesting gender differences in the amount of force male and female officers used or the likelihood that they resorted to force. For example, Garner et al. (2002) found that male officers were more likely to use force and employ more severe types of force than female officers. Similarly, McElvain and Kposowa (2004) found that male officers were more likely to be investigated by internal affairs for incidents involving higher levels of force than female officers. Finally, Kop and Euwema (2001) found that male officers were more likely to resort to force than female officers in their sample; however, they found no gender differences in officer attitudes toward use of force (see also Morabito & Doerner, 1997). Thus, while not consistent in every study, the overwhelming amount of evidence suggests that officer gender is not related to use of force.



## Age

Officer age has surprisingly received relatively little attention in empirical studies. One possible explanation is that officer age and years of experience are highly correlated with one another thus requiring only one of the two measures to be included in the analysis. Exceptions to this pattern include Crawford and Burns' (1998) finding that officer age was unrelated to an officer's propensity to use any of type of force analyzed. Conversely, Garner et al. (2002) reported that older officers were less likely to use force and, when they did, they used less severe types of force compared to younger officers. Moreover, McElvain and Kposowa (2004) reported that older officers were less likely to have been investigated by internal affairs for use of force incidents compared to younger officers. The cumulative evidence regarding the relationship between officer age and use of force is inconclusive, as too few studies have considered this factor in their analysis.

## Experience

Officer's level of experience has received a considerable amount of research attention with mixed results. Evidence has accumulated suggesting a negative relationship between officer experience and use of force: officers with more experience were less likely to use less force (Paoline & Terrill, 2007; Terrill & Mastrofski, 2002). Kop and Euwema (2001) also discovered that officers with more experience held less favorable attitudes toward the use of force relative to their counterparts with fewer years of service and were less likely to use force. Likewise, McElvain and Kposowa (2004) found that officers with more years of experience were less likely to have been investigated by internal affairs for a use of force incident.

Conversely, several other studies reported that officer experience had no influence on use of force decisions. For example, Sun and Payne (2004) found that officers with more years of experience were no more or less likely to use force than those with fewer years of service. This finding was also reported in several other studies (Lawton, 2007; McCluskey et al., 2005; McCluskey & Terrill, 2005; Terrill et al., 2008).

Finally, further complicating matters, officer experience also produced mixed results in the same study depending on how use of force was operationalized. For example, Crawford and Burns (1998) found that officers with more years of experience were less likely to use a restraining hold and a firearm than officers with fewer years of experience, but were no more or less likely to use a verbal command, chemical spray, or nonlethal weapon. Other studies found that officer experience produced mixed results as well (Kaminski et al., 2004; Morabito & Doerner, 1997; Paoline & Terrill, 2004). The relationship between use of force and officer experience is unclear and often contingent on the data examined and the operationalization of the dependent variable.

## **Education**

One of the recommendations offered by the President's Commission on Law Enforcement and Administration of Justice was that police agencies seek to hire college-educated personnel. Seemingly, those achieving a higher level of educational attainment possess better decision-making skills and will make better police officers (Worden, 1990). This assumption has received relatively little attention and the empirical evidence produced by the few studies that have examined this factor was mixed. A single study reported here found that an officer's level of education did not influence the likelihood that he or she used force (Sun & Payne, 2004), while others have found a negative relationship between force and an officer's level of education (Terrill & Mastrofski, 2002). For example, Paoline and Terrill (2007) reported that officers with a college degree were less likely to use verbal and physical force compared to their colleagues with only a high school degree. Similarly, officers with some college were less likely to engage in verbal force compared to their less educated counterparts but no more or less likely to use physical force. Other studies have reported mixed results including Morabito and Doerner (1997) who reported that officers with a Bachelor's degree were no more or less likely to use OC spray prior to policy changes but were more likely to deploy this form of nonlethal force after departmental policy changes. Similar mixed results pertaining to the effects of officer education on the likelihood of using force were reported by Paoline and Terrill (2004).

## **DISCUSSION**

Based on the empirical evidence to date, it appears that few suspect and encounter characteristics are highly influential in determining use of force by police. For example, male suspects, those who were intoxicated, offered resistance, or arrested during their encounter with police were much more likely to experience police force. A word of caution is warranted, as the overall consistency of these factors should be tempered with the caveat that several studies also reported mixed findings or no relationship for these factors as well. Despite this, the general trend for these factors suggests force is more likely occur when these characteristics are present. The overwhelming majority of variables used throughout the literature seem to have a mixed relationship (i.e., suspect race/ethnicity, suspect gender, suspect age, weapon, etc.) or appear to be poor predictors (i.e., other citizens present, officer race, officer gender, etc.) of use of force by police. Explaining the relative inconsistency of variables across studies is not an easy task, but a necessary one if the field of police studies wishes to further its understanding of the nature and extent of this phenomenon. We offer some plausible explanations that might put the inconsistent findings reported here in context.

First, while this body of research has improved the state of knowledge regarding correlates of force, as with all knowledge regarding police behavior, methodological issues continue to be relevant. Despite the continuity in definition offered by Garner et al. (1995), there is an on-going, pervasive problem with scholars failing to provide a consistent

operationalization and measurement of force throughout the literature. This deficiency leads to an assortment of police behaviors (e.g., verbal, physical, violent, and nonviolent ones) being measured as force and might account for why there is little consistency in terms of the reported effects of exogenous variables across studies. Further, this inconsistency raises concerns about how research findings should be interpreted. For example, it is unclear whether extant findings are related to nonviolent, violent, or both types of force. As a result, not only are research results inconsistent across studies, but also there is no way to ensure the results are explaining the same phenomenon.

Even among those studies that provided definitions of force, the degree of specificity varies considerably. For example, Terrill and Reisig (2003: 299) defined force as "... acts that threaten or inflict physical harm on suspects", whereas Williams and Westall (2003: 471)<sup>5</sup> defined it as "any act or behavior that compelled a person into submission". Unlike Terrill and Reisig's (2003) definition, Williams and Westall's does not clearly convey the types of police officer behavior that constitute force and leaves the meaning of "submission" ambiguous. Such inconsistencies might account for disparate findings across studies. Future research needs to address the operationalization of force in an effort to generate consensus throughout the literature.

A second concern centers on possible omitted variable biases. The failure to consistently include a measure of crime seriousness might account for some of the disparate findings reported here. Notwithstanding a few inquiries (Alpert et al., 2004; Engel et al., 2000; Lawton, 2007), use of force studies have generally been silent on the importance of this factor. Considering this is one of the most robust predictors of criminal justice decision-making (Gottfredson & Gottfredson, 1988) and studies have consistently shown that those who commit more serious offenses are more likely to be arrested (Brown & Frank, 2006; Novak & Engel, 2005), charged (Meithe, 1987), receive longer sentences (Koons-Witt, 2002; Steffensmeier, Ulmer, & Kramer, 1998), and victims and witnesses to crimes are more likely to notify the police when they perceive a serious crime has been committed (Felson, Messner, & Hoskin, 1999), it is crucial to further explore the importance of this factor in force encounters. Similarly, only one study reviewed here made an attempt to determine whether the officer involved in the encounter had specific preexisting knowledge regarding the suspect that might heighten his/her sense of urgency and result in a greater likelihood of resorting to force. Garner et al. (2002) included measures that tapped into whether the suspect was known to be violent, possess a weapon, and a member of a gang. Given the relative consistency of prior criminal record in other areas of criminal justice research, it seems logical for scholars focusing on police use of force to make an attempt to include such measures in the future.

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<sup>5</sup>The findings from this study were not reported here, as multivariate analysis was not conducted. However, their operationalization of force exemplifies the concern being articulated. Of the 41 studies conducted between 1995 and 2008 that were located as a part of this research only twelve provided a proper operational definition of force. The remaining studies merely identified behaviors captured in their measure or failed to address operationalization all together.

The third concern deals with recent analytic improvements (i.e., hierarchical modeling) that may require a re-assessment of findings generated using traditional unilevel, multivariate models. Assessing police-citizen encounters by considering suspect, encounter, and officer factors requires consideration of the inherent nested nature of the data. Specifically, data collected on police-citizen encounters correspond to multiple levels of aggregation: suspect and encounter level factors correspond to one level of aggregation (level-1), while officer characteristics correspond to a higher level of aggregation (level-2). This logic also applies to higher other factors such as neighborhood or organizational factors (level-3). Ideally, suspect and encounter characteristics should be modeled at a different level of aggregation from officer characteristics in order to assess their independent impact on outcomes (i.e., use of force) (Terrill & Mastrofski, 2002).

Failing to acknowledge this issue violates the assumption that each outcome is independently influenced by the predictors in the model (Hanushek & Jackson, 1977). This likely leads to error terms at level-1 being correlated across officers at level-2 and may lead to invalid parameter estimates (Luke, 2004). Moreover, multicollinearity between level-1 and level-2 units and a biased F-test may result from a failure to properly model nested data (Wooldredge, Griffin, & Pratt, 2001). Studies that do not acknowledge the hierarchical nature of the police-citizen encounters might report biased estimates regarding the correlates of police use of force (as well as other decisions) and report statistical artifacts rather than actual statistical relationships.

To date, the accepted method of studying use of force has been to analyze data using pooled variance analytical techniques for categorical and limited dependent variables (i.e., ordered probit and multinomial logit models). The only exceptions to date are Lawton (2007), McCluskey and Terrill (2005), and Terrill and Reisig (2003), who used hierarchical linear modeling (HLM or HGLM) techniques to estimate the effects of the endogenous variables on police use of force. Two of these studies, however, modeled encounter level factors at level-1 and community/contextual level factors at level-2 (i.e., violent crime rate, heterogeneity measures, concentrated disadvantage, homicide rate, etc.), thus failing to address the nested nature of the data (i.e., suspect and encounter factors nested within officers). In an attempt to overcome this issue, McCluskey and Terrill (2005) modeled encounter level factors at level-1 and officer characteristics at level-2 to assess the independent effects of the variables operating at the different levels while controlling for the potential correlated error. Future research should follow their lead and explore the use of HGLM if the discipline of police studies wishes to broaden its understanding of policing outcomes in general, and use of force, specifically.

In addition to methodological issues, a consistent, yet underdeveloped, theme in policing research is the impact of organizational and contextual characteristics on encounter outcomes. While scholars have been attracted to these factors for some time, few include meaningful measures in their analysis. Sherman (1980) defined contextual characteristics as attributes of the community that influence how police carry out their role. His review identified several community level factors that might affect police officer decision-making, such as the area's political climate, economic status, and basic demographic characteristics. However, he

discovered that few of these measures were employed in use of force studies. By the time Riksheim and Chermak (1993) replicated his review, scholars had increasingly estimated the effects of community level factors in use of force research, but still only a total of fourteen findings were reported. Aside from studies that merely included a jurisdictional measure, community level factors were incorporated in only four studies, accounting for nine different findings (see Lawton, 2007; McCluskey et al., 2005; Sun & Payne, 2004; and Terrill & Reisig, 2003).

Similarly, organizational factors have long been discussed by scholars sanctimoniously, but not given their due attention. Organizational characteristics are factors intrinsic to the agency, not the individual, but may influence officer decision-making. Sherman's (1980) review found a total of five findings reported in police use of literature prior to 1980 and, by 1993, the number of findings reported throughout the literature had increased to thirteen (Riksheim & Chermak, 1993). Organizational characteristics have received scant attention in the more recent use of force research, as only two studies reported here included true measures of such factors (Alpert & MacDonald, 2001; Terrill et al., 2003). Several studies compared results across departments or jurisdictions, but without providing measures that tap organizational differences, the findings are difficult to interpret (Sherman, 1980). That is, merely identifying that outcomes vary across agencies does not speak to any of the characteristics of those agencies, which might explain why outcomes vary.

As advancements in analytical techniques continue to allow for more sophisticated modeling of data, it would be expected that contextual and organizational factors experience a "rebirth" throughout the literature. Considering we can assess the independent influences of characteristics operating at different levels (i.e., encounter, officer, organizational, and neighborhood context), this seems like an intuitive avenue for future research. These new and improved methods might allow for the testing of complex theoretical frameworks such as Klinger's (1997) ecological perspective, which suggests police behavior is based on a constellation of factors ranging from encounter characteristics and personal experiences to community and work contexts.

## **IMPORTANCE OF UNDERSTANDING POLICE USE OF FORCE**

Understanding the nature and extent of use of force by police is extremely important for a variety of reasons. The phrase 'police use of force' has a negative connotation that implies cruel, harsh, or brutal treatment, and there is evidence suggesting that these incidents erode community attitudes toward and trust in police (Thompson & Lee, 2004). Thus, use of force incidents often serve to exacerbate the historically contentious relations between the police and certain segments of society. In particular, African American communities have a long-standing tense relationship with the police and some suggest that Hispanic communities are also at odds with police (Huang & Vaughn, 1996; Walker, 1997).



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In addition to the deleterious effects on police-community relations, police use of force incidents can be very costly for police organizations in terms of civil litigation payouts and subsequent resource expenditures. The very nature of their work makes police organizations susceptible to civil suits, especially claims of excessive use of force (Barrineau, 1994). Although estimating the total amount of money paid out annually for use of force claims is a difficult endeavor due to a lack of reliable data (del Carmen, 1993), a substantial number of law suits are filed against police each year claiming excessive use of force (Skolnick & Fyfe, 1993). Of equal concern is recent evidence suggesting that the number of suits filed against police organizations has been increasing since the 1980's (see Kappeler & Kappeler, 1992 and Kappeler, Kappeler, & del Carmen, 1993).

Finally, organizational policy, in theory, should be predicated on empirical research. As such, it is imperative that we fully understand the nature and extent of police use of force as well as the factors related to its use. Only then can training protocols be tailored to its appropriate use and policy formulated to instruct officers when they can and should use force.

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## **BIOGRAPHICAL SKETCHES**

**Charles F. Klahm** is an Assistant Professor in the Department of Criminal Justice at St. Joseph's College, New York. His research interests include understanding police behavior, especially their use of force, the use of evolving technology in policing, as well as how technology influences crime prevention initiatives.

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**Giordano, Peggy C. (2010). *Legacies of Crime: A Follow-Up of the Children of Highly Delinquent Girls and Boys*. New York: Cambridge University Press.**

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There are two important research questions addressed in *Legacies of Crime*. First, what is the likelihood that juvenile delinquents will reoffend upon release? Second, while many of the delinquents eventually become parents, are their children more likely to participate in delinquent behavior? Giordano makes progress in addressing these questions by interviewing a select group of institutionalized teens, following their lives over the years and studying the lives of their offspring.

The primary data sources for the book are developed from a series of studies undertaken by Giordano and colleagues. The Ohio Life-Course Study (OLS) began in 1982 and continued with follow-up interviews in 1995 and 2003 serves as the primary source of data for the book. In terms of the first follow-up to the OLS, the focus was on the continuation of criminal careers. How many of these individuals persisted in breaking the law, how many of them desisted from law breaking and how many led an unstable life of intermittent unlawful behavior preceded, then succeeded by lawful behavior? The OLS data consists of interviews with 127 girls residing in the Ohio State Institution for Delinquent Girls and a sample of boys (also n=127) institutionalized for delinquency in Ohio.

This type of data allowed Giordano and colleagues to follow the long-term development of delinquents as they “aged out” of crime as well as study the question of intergenerational transmission of delinquent behaviors. The average age of the respondents was 16 when the study began. In the first follow-up, the respondents were an average age of 29 and had experienced a significant amount of issues related to “adult life.” At the time of the second follow-up, the average age of the sample was 38 and many of them were now parents of teens. Giordano’s work is based on the assumption that all respondents strive for the ideal “complete respectability package” (p.56) with marital stability and occupational success to the extent that the household has a stable income that provides at least minimal provision of needs. Other examples of studying life course events draw upon three surveys of a general population of youths residing in Toledo, Ohio: the Toledo Youth Survey (1981), its follow up, the Toledo Young Adult Survey (1992-3), and the Toledo Adolescent Relationships Study (2003). The findings demonstrate that approximately one-fourth of juvenile delinquents persist in repeated criminal activity; twenty-nine percent have unstable histories of both avoiding, then participating in unstable behavior. Forty-five percent desist from criminal activity. Females desist from criminal behavior at a higher rate than males.

In exploring the question of delinquency, Giordano attempts to address how these changes take place. What are the characteristics of individuals that desist as opposed to those that continue criminal behavior? While the richness of the qualitative interviews describes the stories of individuals in great detail, a clear understanding of how delinquents do and don't age

out of criminality does not develop. Some children from severely disadvantaged and problem homes avoid delinquency while others children growing up in more ideal environments participate in many delinquent behaviors. That said, this book offers several testable hypotheses for scholars of social learning theory.

Giordano takes social learning as a given to explore the question of how these definitions of appropriate behavior are learned. She follows Sutherland's (1947) classic argument that the communication process of social learning whereby young people adopt an excess of definitions of behaviors favorable to deviance over definitions unfavorable to violation of law. Parents may not want their children to participate in delinquent behavior but they influence their children's definitions of appropriate behavior through various methods. While some influence may be exerted by direct modeling of behavior, some of this may come from ineffective parenting, others by neighborhood influences, and other influences may be direct modeling of behavior. Some individuals may argue that there are a series of direct causes for delinquency such as heredity, the process of direct learning from parents, reactions to parents' behavior or perhaps it may be influenced by growing up in a socially disadvantaged neighborhood. One of the findings is that children of delinquent parents are more likely to be delinquent than those of whose parents were not delinquent. However, only a small percentage of children of delinquents actually participate in delinquent behavior. This raises the important question of resiliency that is essential for modern social work.

In terms of the questions regarding children of parents previously institutionalized for delinquency, Giordano demonstrates that some of these children are influenced to normalize criminal behaviors such as substance abuse, that are modeled by their parents. They are likely to adopt delinquent behaviors. On the other hand, she also shows that some of these children may avoid delinquency as they take on the role of the caregiver for their siblings and their parents. Throughout the book, the concept of social learning is shown to be complex because children are more than the product of direct interaction with their parents. Role models and social influence extend far beyond the nuclear family. Parents have friends, associates and romantic partners that may be seen as models in the children's lives. Additionally, few parents hope that their children to participate in delinquent behavior.

A sense of hope and commitment to self-improvement seems critical to the success of breaking the cycle of delinquency. This may take the form of modeling pro-social behavior for their siblings, commitment to career goals or even commitment to religious practices. However the number of discouraging influences in terms of residing in economically disadvantaged neighborhoods can remain a significant obstacle to breaking the cycle of delinquency. For example, a student may claim a specific career aspiration yet lack the social and cultural capital to understand the steps that accomplishing those goals may entail. Also, Giordano reminds us the importance of peer influences in shaping behavior.

The conclusions offer a significant advancement to the corpus of research on children of prisoners. Giordano's research demonstrates that the simple variable of being a child of a prisoner may oversimplify the level of influence and the actual risk of delinquency faced by children of the incarcerated. However, this does illustrate the importance of nurturing and

supporting the pro-social goals that many of these children attempt to achieve. This requires researchers to delve deeper into the dynamic of social learning and symbolic interaction so that greater understanding can be achieved into the meaning of being children of delinquents. Each individual child of prisoners may have a different perspective on how their parents' behavior may affect their own behavior, which would require individualized studies to understand these behavioral patterns. Some children are subjected to violence, other households have substance abuse and the children are either encouraged or discouraged to participate with the parent.

This book is ambitious because the questions are too great to completely address in a single volume. Nevertheless, it does address an important question with unique data. The complexity of this book makes it appropriate reading for advanced scholars in the field. I would recommend it as required reading in a graduate juvenile delinquency course.



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